Enhancing the Transit Environment

Bus Stop Improvement Case Studies for Chester County

2016

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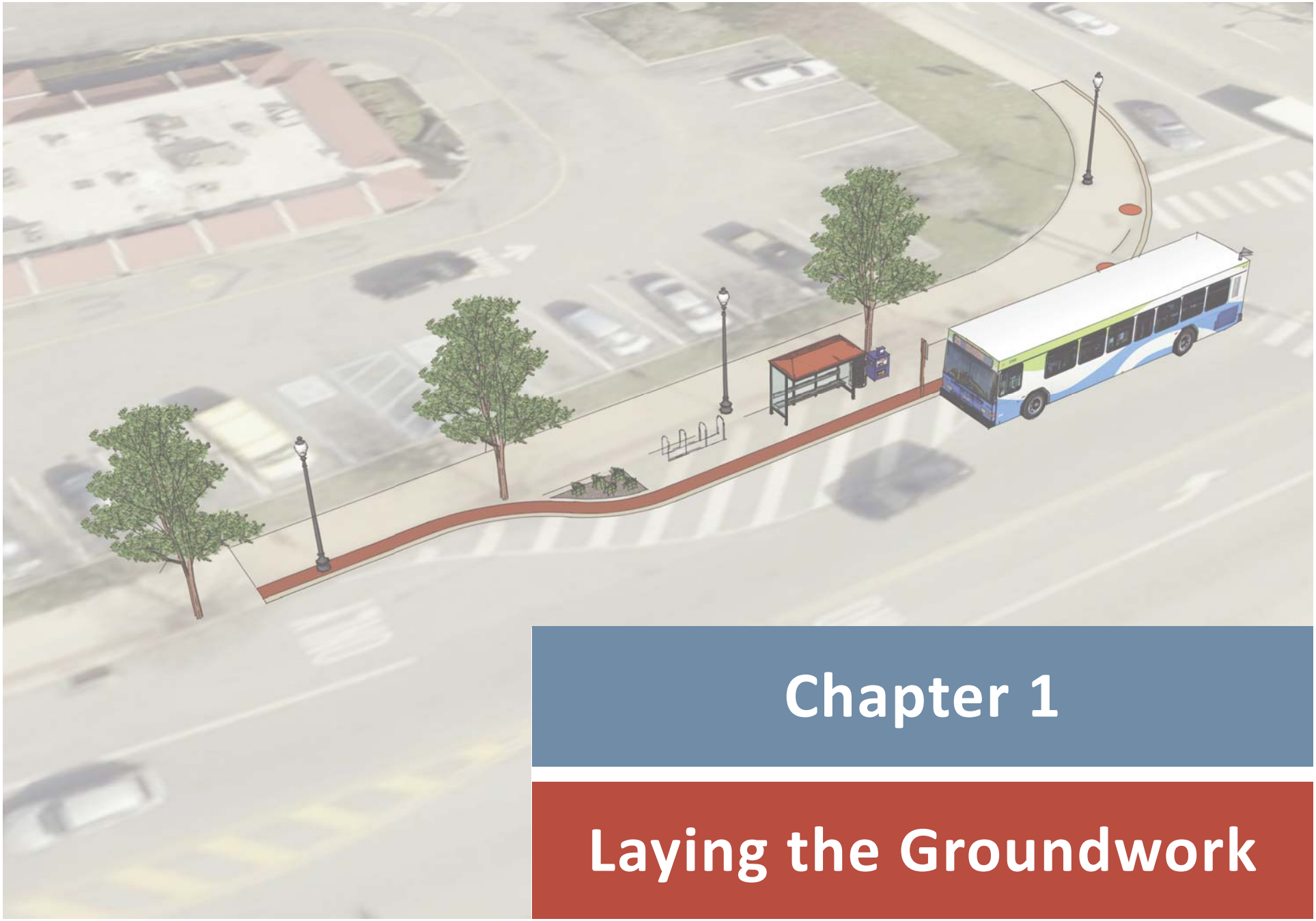


Chapter 1

Laying the Groundwork

Landscapes2 Transportation T 1.4 Policy:

Encourage appropriate and supportive land use, diversity, and site designs that reduce vehicular dependency, encourage public transportation, and provide bicycle and pedestrian mobility.

Purpose

This document presents case studies of conceptual improvements at key bus stop locations throughout Chester County. The intent was to illustrate how to apply the recommendations from the Multi-modal Circulation Handbook for Chester County, PA and SEPTA Bus Stop Design Guidelines to enhance bus stops in Chester County. Additionally, the improvement plans will position these bus stops for potential grant funding or development/ redevelopment opportunities. The Chester County Planning Commission is committed to working with its planning partners to improve public transportation infrastructure and amenities and encourage increased transit ridership.

All work on this document was performed by Chester County Planning Commission staff. Funding for this project was provided by the Delaware Valley Regional Planning Commission.

Policy Framework

Landscapes2, Chester County's comprehensive policy plan, emphasizes the importance of providing balanced transportation options and linking land use to the transportation decision making process. Chester County's overall Goal for Transportation is, "Provide a safe, intermodal transportation system which optimizes mobility and access, sustains quality of life, strengthens the economy, and protects the environment."

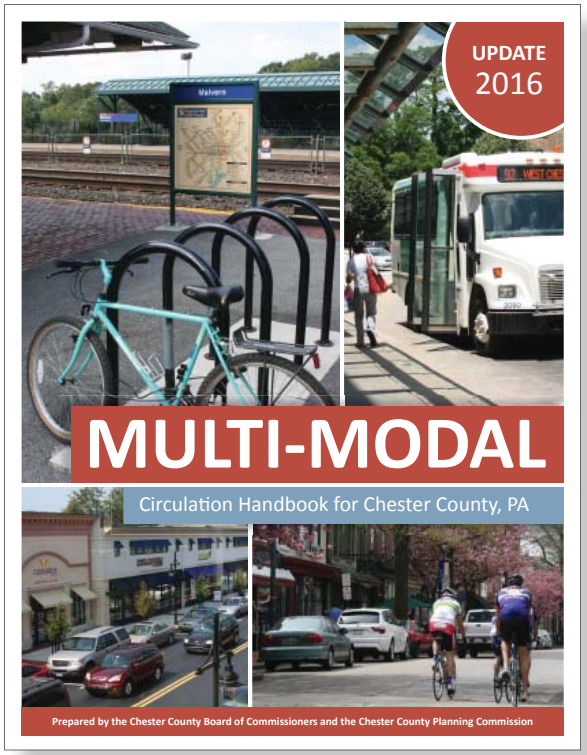
This document fulfills the Goal for Transportation and the Objectives for Non-motorized and Public Transportation by implementing the following policies from Landscapes2:

T 1.4 Encourage appropriate and supportive land use, diversity, and site designs that reduce vehicular dependency, encourage public transportation, and provide bicycle and pedestrian mobility.

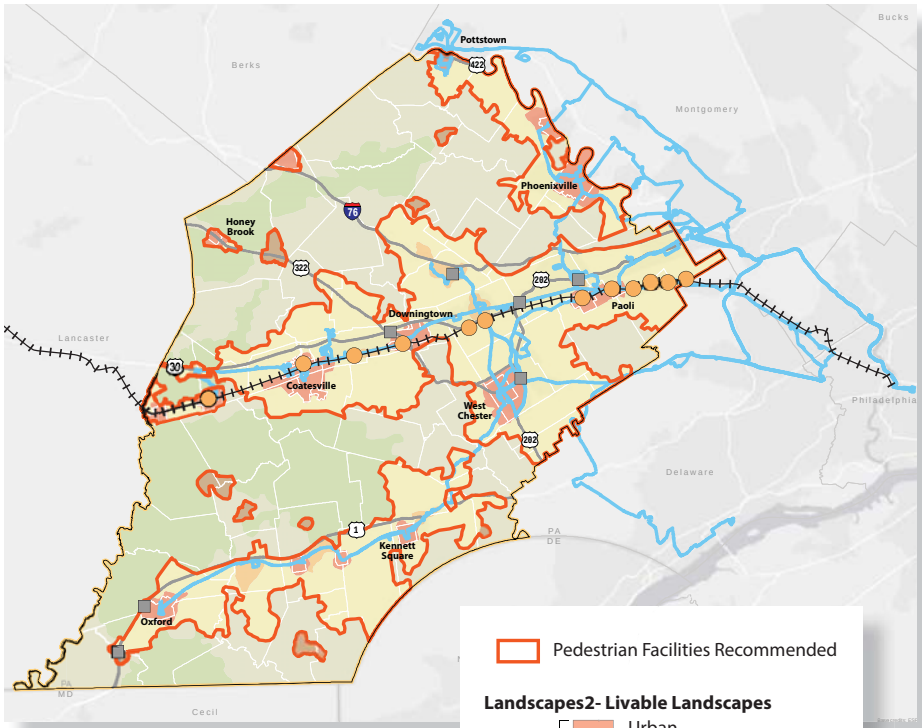
T 2.4 Enhance bicycle and pedestrian amenities and network connections to transit.

T 3.3 Provide accessible bicycle and pedestrian connections between public transportation services and surrounding land uses.

T 3.4 Improve and enhance existing public transportation service speed, frequency, and amenities.

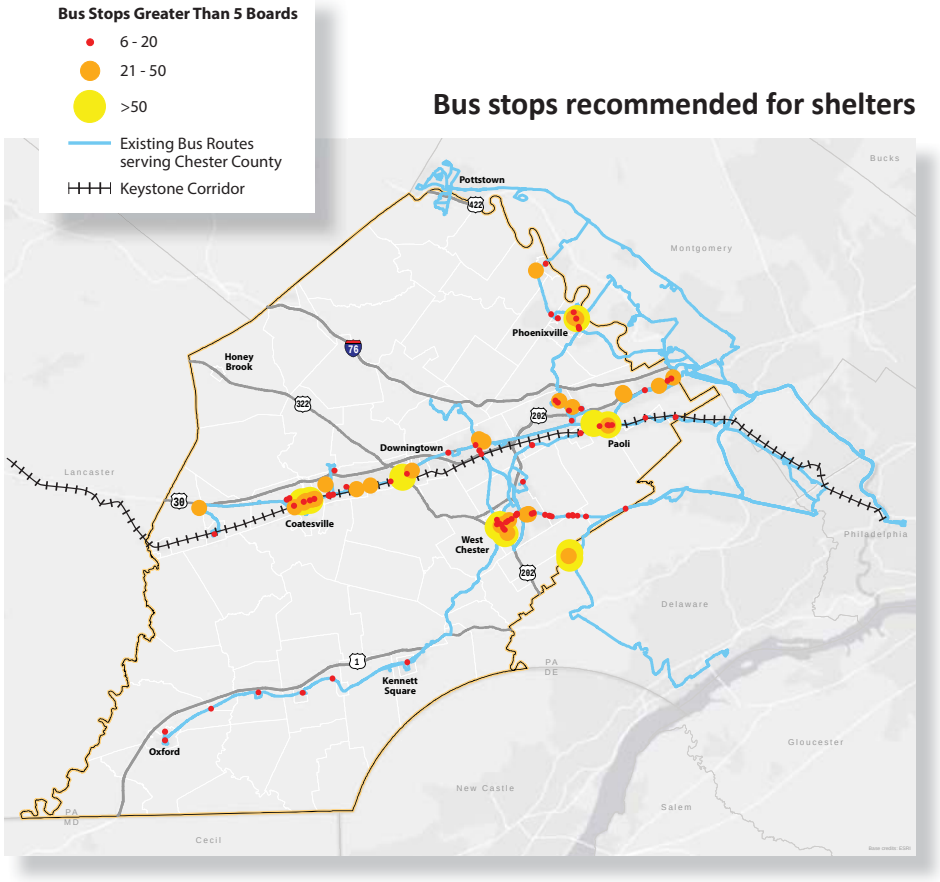


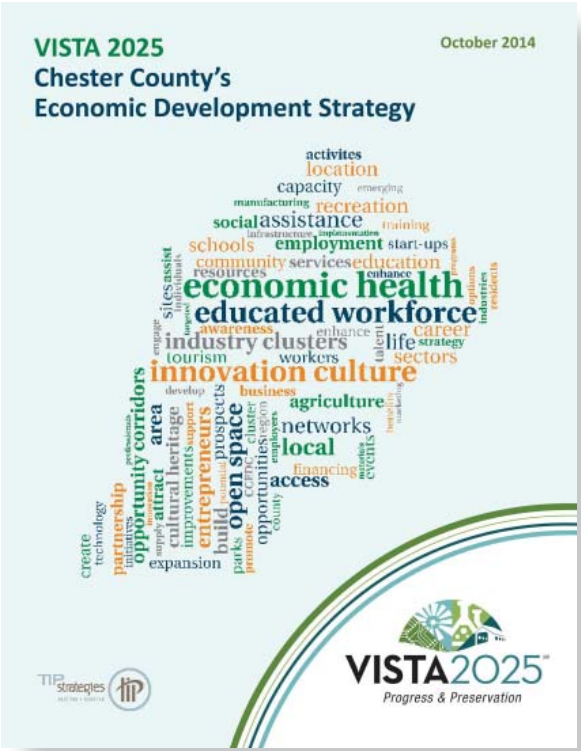
Recommended areas for pedestrian facilities



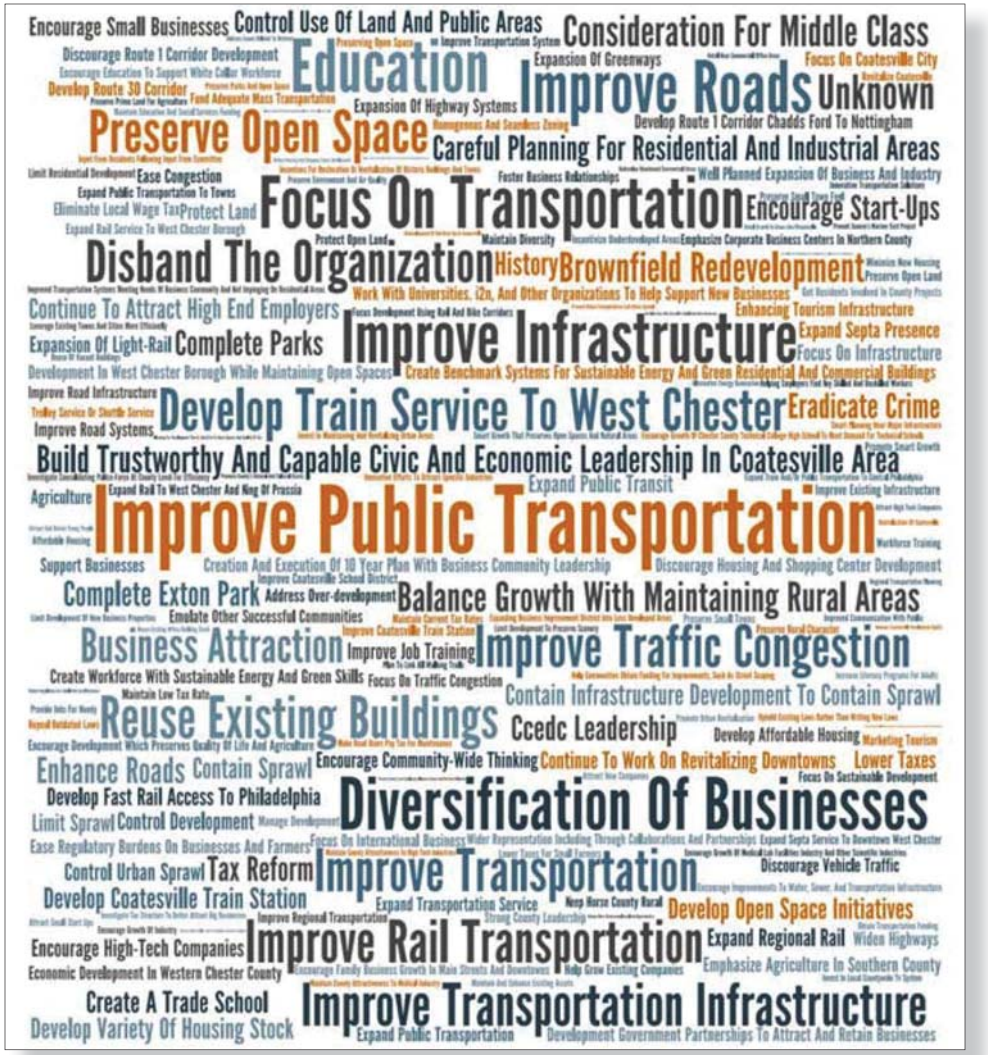
The Chester County Public Transportation Plan focuses on improving the three core elements of the transit network in Chester County: the System, the Environment, and the Experience. This document focuses on the Environment and secondarily the Experience, or the physical human interaction with public transportation. The Public Transportation Plan cites, "the inability of transit users to safely and easily access transit stops and stations by bicycle or on foot," as one of the most limiting factors to transit ridership. It encourages land development proposals include pedestrian facilities where appropriate in Chester County. The Plan also establishes a goal of providing shelters at 75% of bus stops with more than 5 daily boardings by 2030.

Bus stops recommended for shelters





During the development of Vista2025, Chester County's economic development strategy, the community was asked to identify what the single most important action the County could take to positively position itself for a viable economic future. Improving public transportation was a top priority identified by respondents. Vista2025 goes on to identify strategies that would continue to improve transit access for the County's workforce and businesses.



Graphic courtesy of Vista2025

Best Practices

The Multi-modal Circulation Handbook provides municipal officials, planners, traffic consultants, designers, land owners and developers with a consolidated reference guide on how to accommodate all modes of transportation into land use/ land development design. The Handbook quantifies and illustrates the range and diversity of information on the subject of circulation as it relates to land use. Recommendations in the Multi-modal Handbook are based on five guiding principles:

- Create pedestrian-oriented experiences and design to the human scale.
- Provide for all transportation modes.
- Incorporate sustainable design elements.
- Integrate development as part of the community fabric.
- Accommodate future growth.

A variety of design elements are presented in the Multi-modal Handbook to provide quantitative guidance to be considered during the design stage of any development activity. This document specifically applied guidance from the ADA Accessibility, Pedestrian Facilities, Bus Stops, Park and Rides, Bicycle Parking, Landscape Material, and Lighting design elements when developing improvement plans for key bus stops in Chester County.

SEPTA's Bus Stop Design Guidelines also served to guide the development of bus stop improvement plans found in this document. SEPTA's Guidelines contain information pertaining to stop location, in-street design, curbside design, and passenger amenities. Each of these elements were considered and features were incorporated into this document.

Methodology

Bus Stop Selection

The criteria used to select the bus stops included daily ridership numbers, parity across service providers, and geographic distribution in Chester County. All of the bus stops that were selected are recommended for shelters in the Chester County Public Transportation Plan.

There are four bus service providers in Chester County: SEPTA, Chescobus (TMACC), Krapfs, and PART. Bus stops served by PART in Chester County were eliminated because they did not meet the ridership thresholds established in the Public Transportation Plan. There is at least one stop served by the remaining three service providers in this document, and some of the stops are served by multiple providers.

Recommended amenities by bus stop type

Stop Type	Amenities								
	Bus Stop Sign	ADA Loading Pad	Paved Walkway Connections	Bus Shelter	System Map	Bench/ Trash Can	Lighting	Bike Racks	Real Time Info
Basic Stop (daily boards of 5 or less)	●	●	●						
Collector Stop (daily boards from 6-20)	●	●	●	●	●	●	●		
Hub Stop (daily boards from 21-50)	●	●	●	●*	●	●**	●	●	●

* = Minimum of 1, or a larger sized shelter.
** = Minimum of 2 each.

Source: Multi-modal Circulation Handbook

Data Collection

Once the bus stops were selected, data was gathered pertaining to the existing conditions at each stop. The Planning Commission and its partner agencies keep detailed data on multiple aspects of each of the bus stops. That data includes:

- The Livable Landscape each stop is located in
- Which municipality the stop is located in
- Whether or not there are existing pedestrian connections
- Whether or not there is an existing shelter
- The number of daily riders
- What routes service each stop
- The DVRPC Transit Score 2040

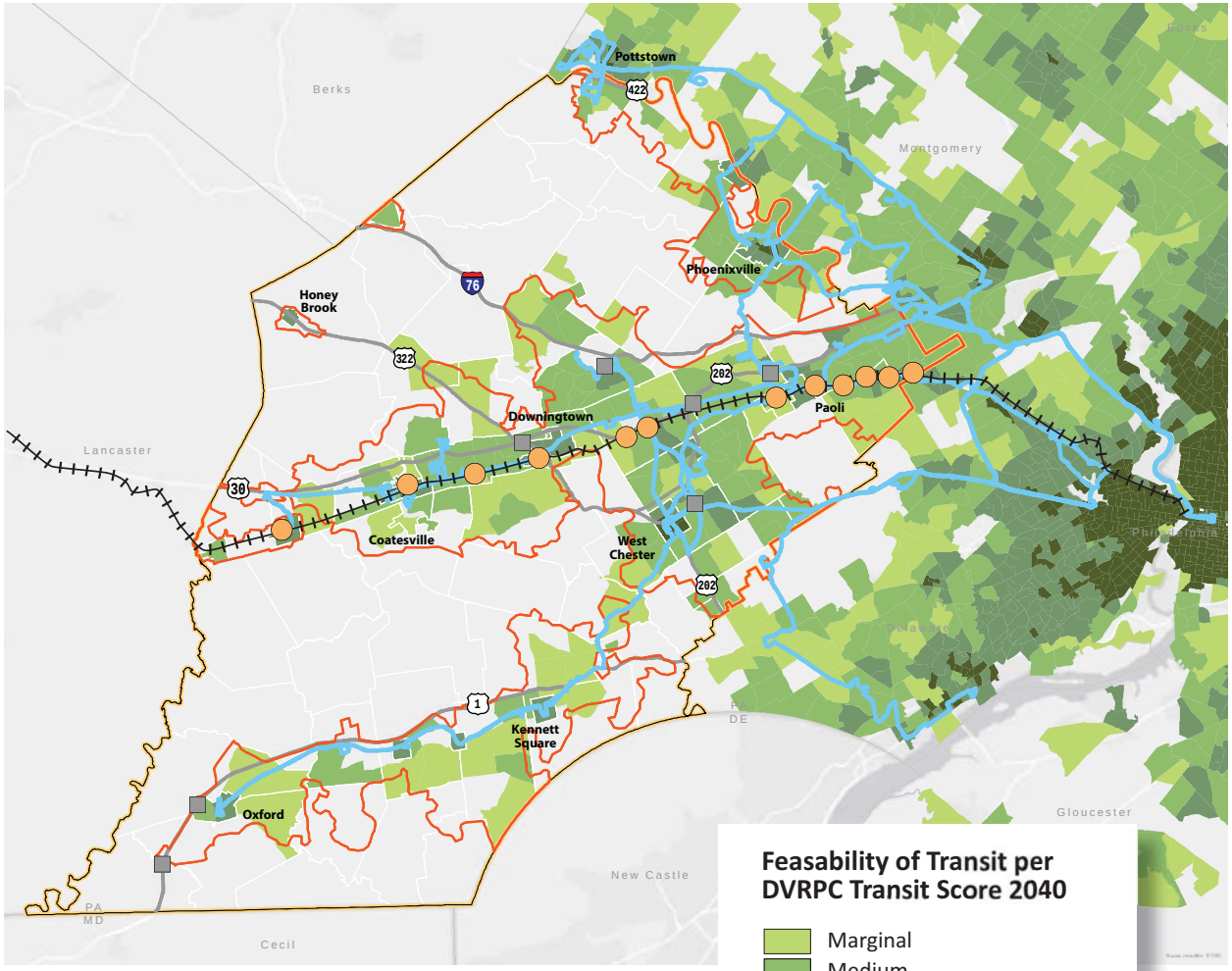
To augment this data, Planning Commission staff performed site visits to each stop to photograph existing conditions and note additional issues that could be addressed.

Draft Renderings and Internal Review

After the existing conditions were analyzed, Planning Commission staff applied design standards from the Multi-modal Handbook and the SEPTA Bus Stop Design Guidelines. Renderings were prepared that incorporated the new elements into each stop. The renderings were peer reviewed by additional staff and revised based on comments received.

Review by Service Providers and Municipalities

Each draft rendering was shared with the stakeholder advisory group that consisted of the transit providers that serviced the stop and municipality which the stop resides in. The stakeholder advisors provided comments that could improve the design elements at each stop. Their comments were evaluated and incorporated into the final renderings.



Source: DVRPC

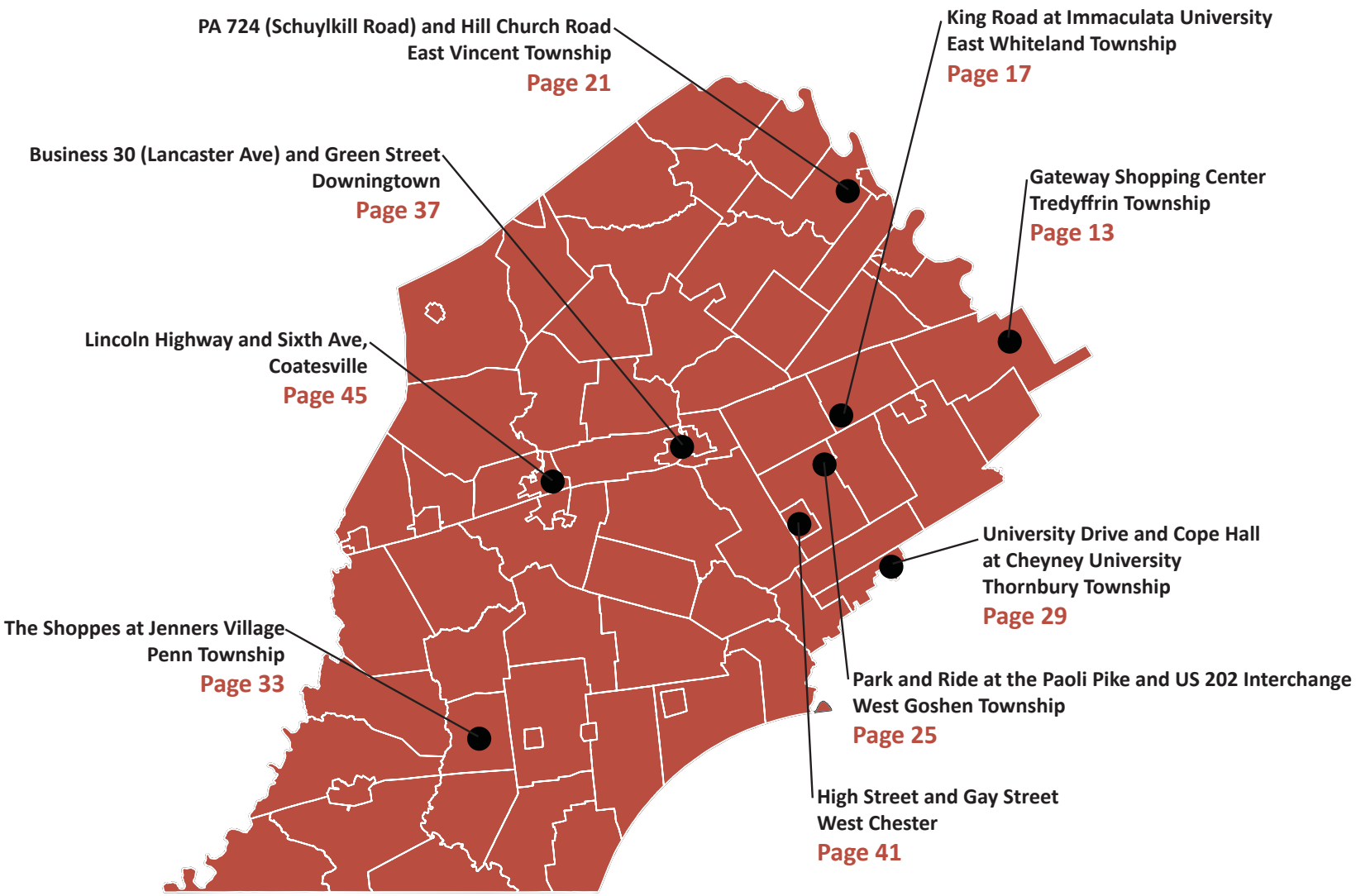
Final Renderings

The renderings found in this document are intended to include the design elements that would best improve the environment at each bus stop. The recommendations presented fit with the community character and support the adjacent land uses while maintaining flexibility for future implementation.

Chapter 2

Bus Stop Improvements

Location of bus stop improvement studies



Gateway Shopping Center — Tredyffrin Twp.

Bus Stop Profile

Landscape:
Suburban

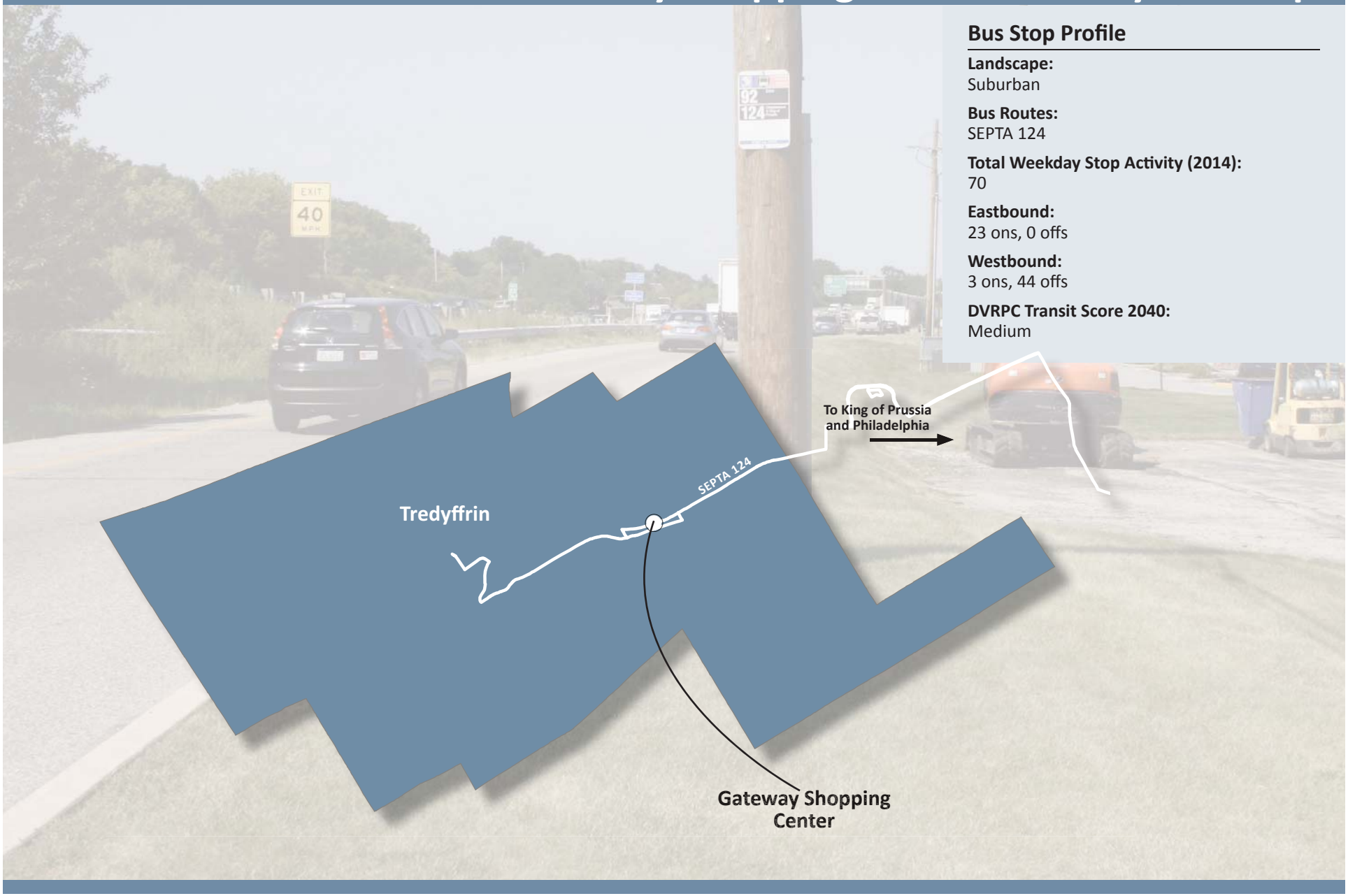
Bus Routes:
SEPTA 124

Total Weekday Stop Activity (2014):
70

Eastbound:
23 ons, 0 offs

Westbound:
3 ons, 44 offs

DVRPC Transit Score 2040:
Medium



Existing Conditions

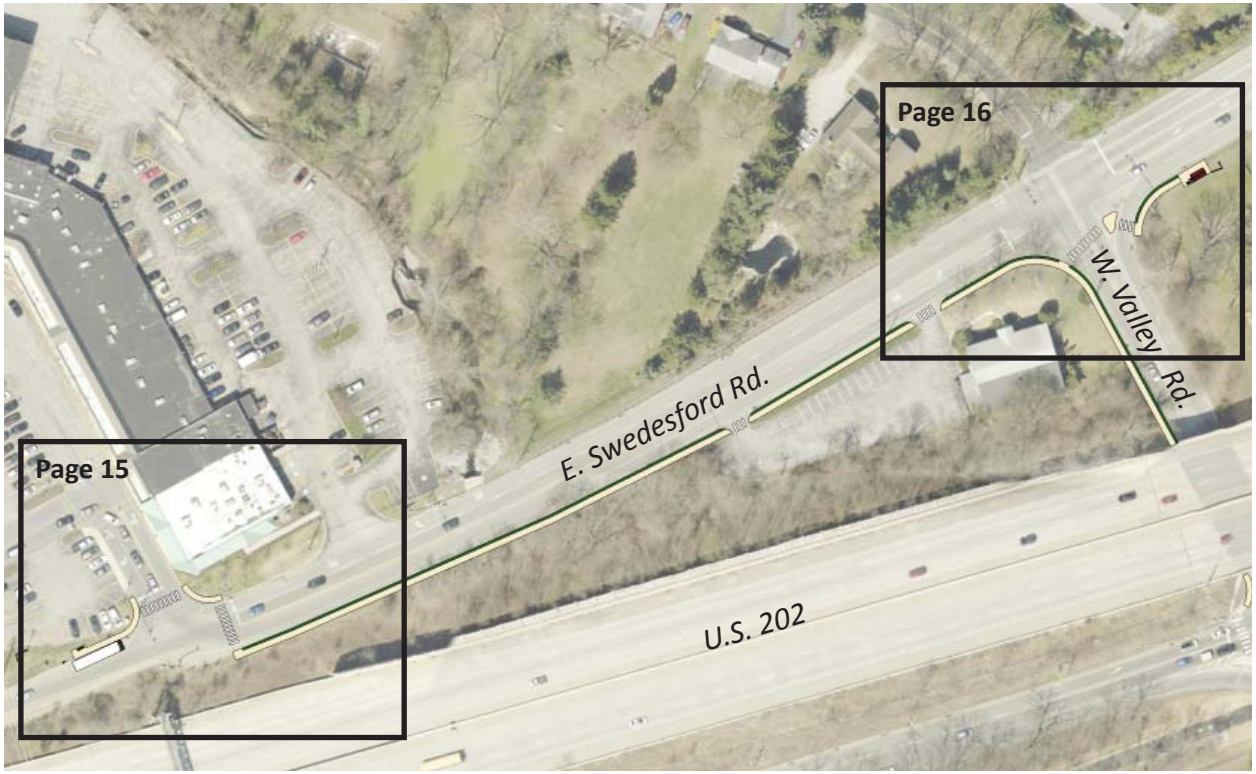
This bus stop is located along Swedesford Road in the proximity of the Gateway Shopping Center in Tredyffrin Township. Swedesford Road is a major collector road that services Gateway Shopping Center as well as a number of other retail and office complexes located close by. The road turns into a one-way westbound street immediately after the entrance to the shopping center. Gateway Shopping Center is anchored by a Trader Joe's, Staples and T.J. Maxx and serves as a popular shopping destination in the area.

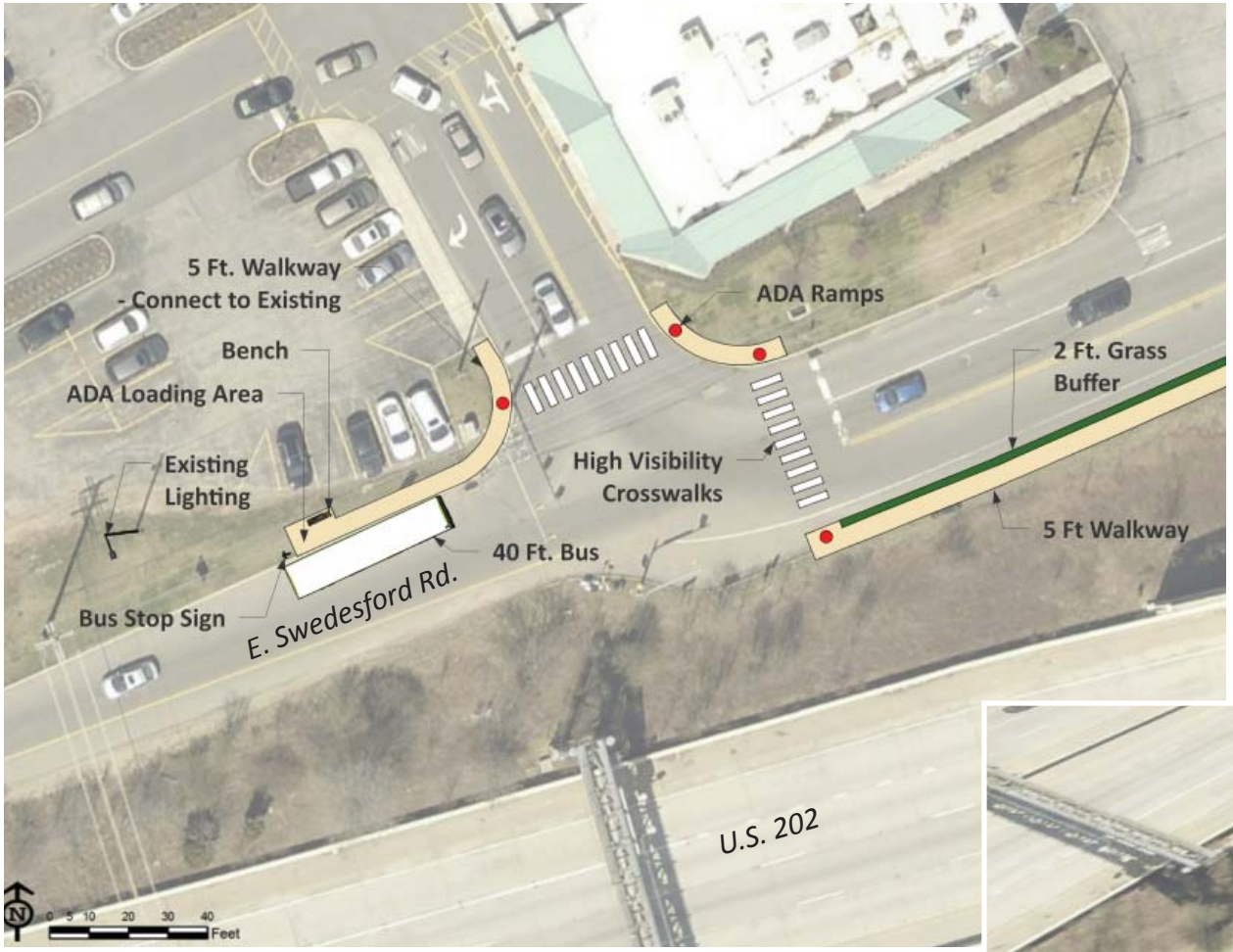
The one-way, split nature of Swedesford Road presents a challenge for serving the shopping center by transit. While westbound trips stop directly in front of the shopping center, eastbound riders have to board the bus at a stop located 0.2 miles from the shopping center at the intersection of Swedesford Road and West Valley Road. The stop area is located in a conventional auto-dependent suburban landscape and therefore lacks pedestrian infrastructure such as sidewalk connections and safe intersection crosswalks.

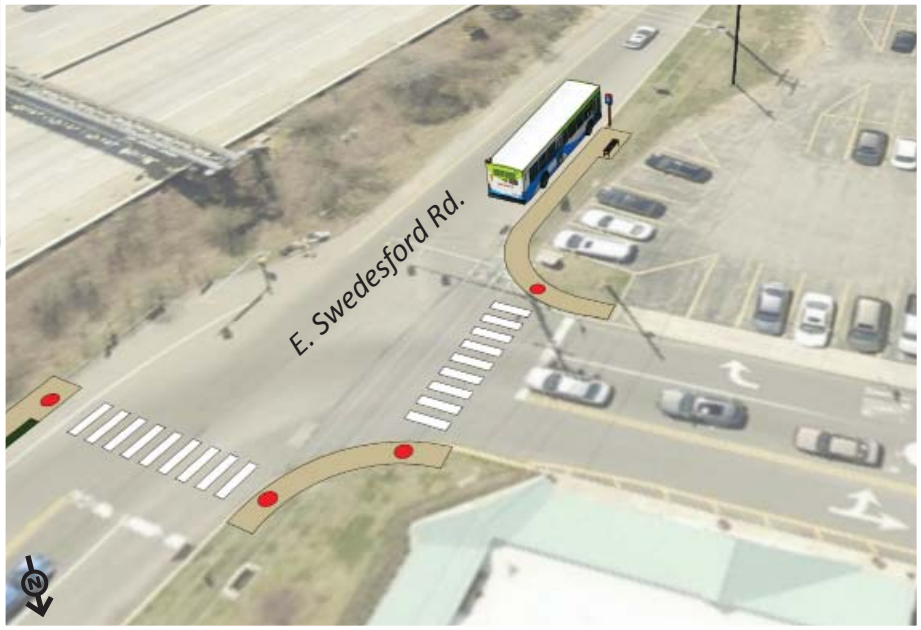
The ridership data for this bus stop shows that boardings are heavier at the eastbound stop and departures are greater at the westbound stop. This seems to indicate that riders utilize this bus route to get to work in Gateway Shopping Center and then return home via the SEPTA 124 route to King of Prussia or Philadelphia.

Both the eastbound and westbound stops consist simply of a SEPTA bus stop sign, but lack any other notable amenities.

Swedesford Road looking west.

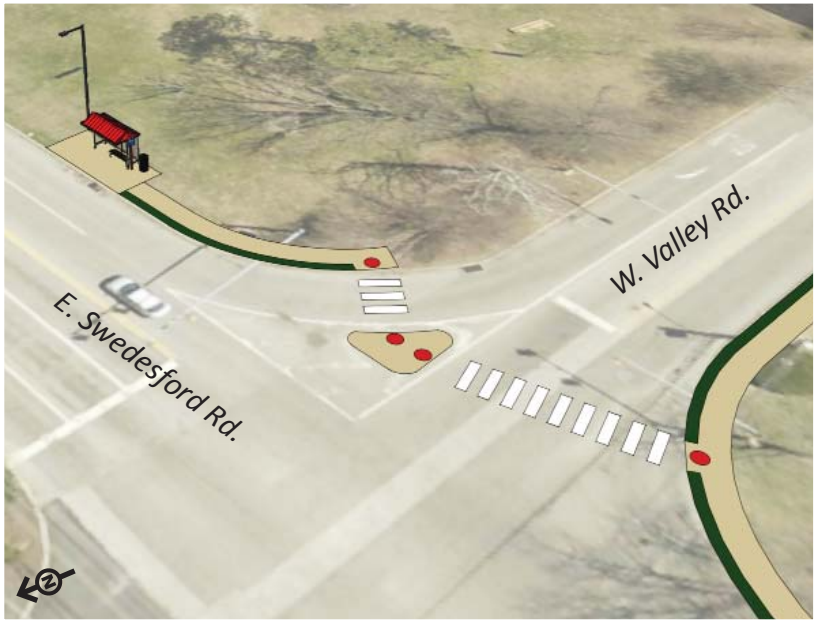






Recommended Improvements

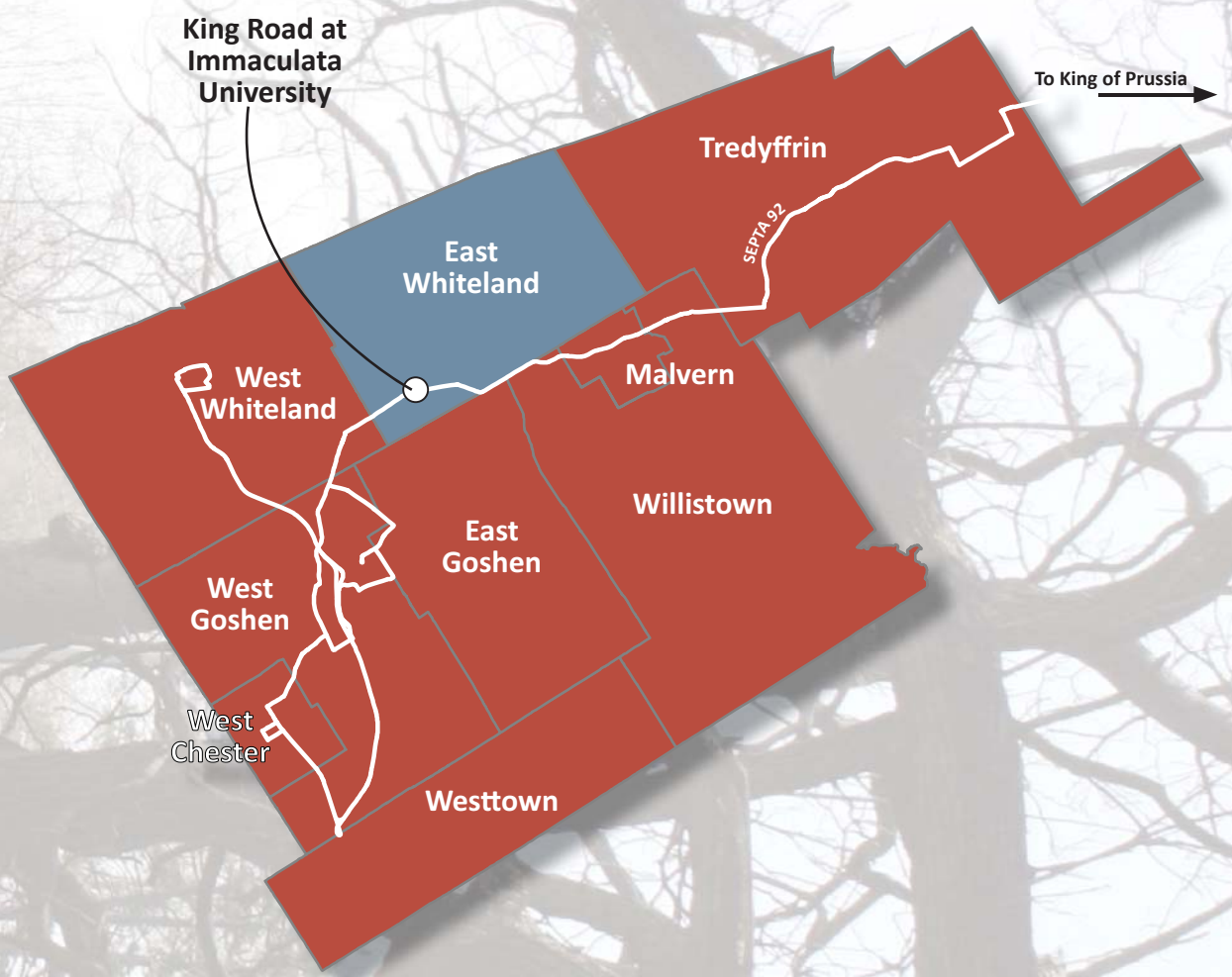
A connected walkway network is recommended for the overall stop area to better link the westbound and eastbound stop locations. The recommended walkway network consists of sidewalks along the southern edge of Swedesford Road from the entrance to Gateway Shopping Center to the eastbound stop location just east of West Valley Road. This walkway network would also link with the planned sidewalk connection along West Valley Road from Swedesford Road to the Chester Valley Trail. This sidewalk project is currently being pursued by Tredyffrin Township.



High visibility crosswalks are recommended for pedestrian crossings at Swedesford Road and West Valley Road. A small pedestrian refuge island at the West Valley Road crossings would also help to facilitate safe pedestrian movements at the intersection. As is illustrated in the conceptual site plans for the stop area, all crossing are equipped with ADA accessible ramps.

Since the eastbound stop accommodates a higher number of boardings, recommended improvements specifically at that location include: a leveled ADA accessible loading area; lighting; clear signage; and a shelter with bench seating and trash receptacle. At the westbound stop, additional improvements consist of an ADA loading area, bench and a completed walkway connection from the stop to the Gateway Shopping Center internal walkway network.

King Road at Immaculata University — East Whiteland Twp.



Bus Stop Profile

Landscape:
Suburban

Bus Routes:
SEPTA 92

Total Weekday Stop Activity (2014):
28

Eastbound:
13 ons, 0 offs

Westbound:
4 ons, 11 offs

DVRPC Transit Score 2040:
Medium

Existing Conditions

The primary bus stop serving Immaculata University is located along West King Road between Immaculata Drive and Gillet Drive in East Whiteland Township. It is situated on the frontage of the university at the end of a long pedestrian path that stretches from Villa Maria Hall, the main building on campus, to King Road. On the south side of King Road, opposite the university, is Villa Maria Academy and the Villa Maria House of Studies. The bus stop is located by the exit driveway from Villa Maria Academy. On both sides of King Road, the properties have substantial setbacks with large grassy lawns. King Road is a major collector road that travels mostly east-west connecting Paoli, Malvern and Exton.

The Immaculata bus stop is serviced by SEPTA bus route 92. This route connects several major employment centers traveling from Exton to West Chester and then onwards to Paoli and the King of Prussia Mall.

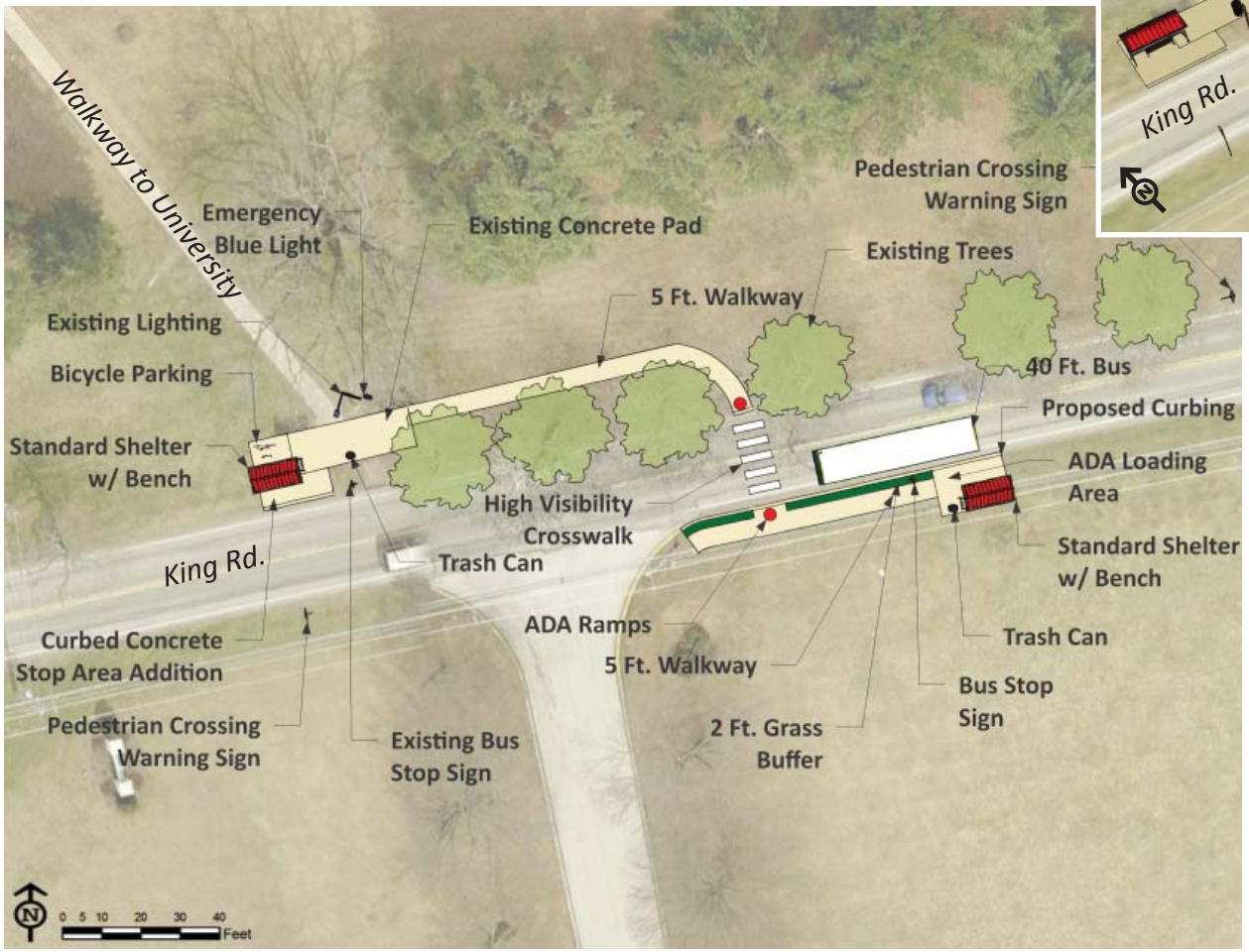
The westbound stop on the Immaculata University side of King Road consists of two small, relatively dated shelter structures resting on a concrete pad. There is lighting and bus stop signage present as well. Currently, the visibility of passengers waiting at the westbound stop location is a challenge for SEPTA bus operators as the shelters are slightly setback from the road, partially blocked by a tree and the shelter structures themselves are wrapped in a lattice siding. The westbound stop also lacks an ADA accessible loading pad that reaches the edge of the roadway. The eastbound stop accommodates a higher number of boardings, but presently just consists of a SEPTA bus stop sign mounted to a utility pole. There is no pedestrian connection along the south side of King Road and there is no safe crossing between the two stop areas.

King Road looking west.

King Road looking east.

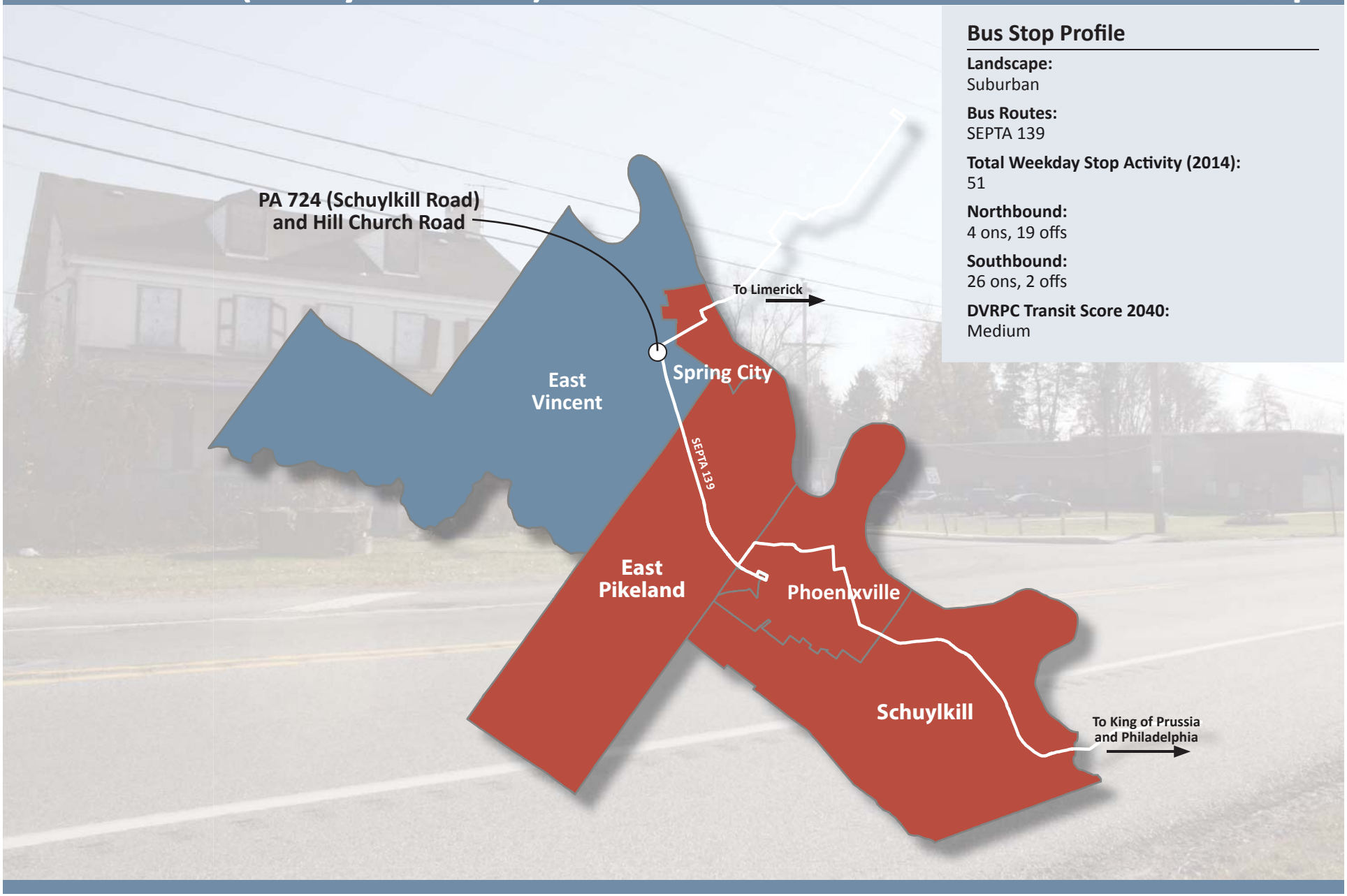
Recommended Improvements

Improvements recommended for the westbound stop include shifting it slightly west away from the trees along King Road and pushing it closer to the street on a curbed concrete addition to the existing concrete pad. Along with a new shelter, these improvements will help to address challenges with visibility of passengers waiting at the westbound stop area. Other enhancements to the westbound stop include bicycle parking, a trash receptacle, and an emergency blue light phone. Since the eastbound stop handles more passenger boardings, a curbed concrete ADA accessible loading area is recommended along with a standard shelter with seating and a trash receptacle. additional lighting will also be needed at the eastbound stop and may be accommodated through solar LED lighting on the shelter structure.



To improve connectivity between the stop areas, a five foot walkway is recommended on King Road along with a high visibility crosswalk and curb cuts with ADA ramps. Pedestrian crossing warning signs for vehicles traveling in both directions along King Road will help to make the pedestrian crossing safer, however, additional safety measures may be necessary to satisfy PennDOT safety requirements.

PA 724 (Schuylkill Road) and Hill Church Road — East Vincent Twp.



Bus Stop Profile

Landscape:
Suburban

Bus Routes:
SEPTA 139

Total Weekday Stop Activity (2014):
51

Northbound:
4 ons, 19 offs

Southbound:
26 ons, 2 offs

DVRPC Transit Score 2040:
Medium

Existing Conditions

This bus stop is located along PA 724 (Schuylkill Road) where it intersects with Hill Church Road and Park Road in East Vincent Township, just beyond the boundary of Spring City Borough. Land use is fairly intensive in the immediate stop area consisting of a mobile home community with approximately 80 units, a small office building and several auto-related uses along Schuylkill Road. A larger apartment complex is also located just down Park Road less than a quarter mile from the bus stop. Schuylkill Road is a major arterial roadway that runs from the Pottstown area in the northwest corner of Chester County and connects southeast through to Phoenixville.

The PA 724 stop is serviced by SEPTA bus route 139. This route travels between Limerick and King of Prussia with stops in Royersford Borough (Montgomery County), Spring City Borough, Phoenixville Borough and major employment centers such as the Valley Forge Casino, the Valley Forge Business Park and the King of Prussia Mall. Ridership data for the stop indicates that most riders are boarding at the southbound stop to reach employment centers to the south and are departing at the northbound stop.

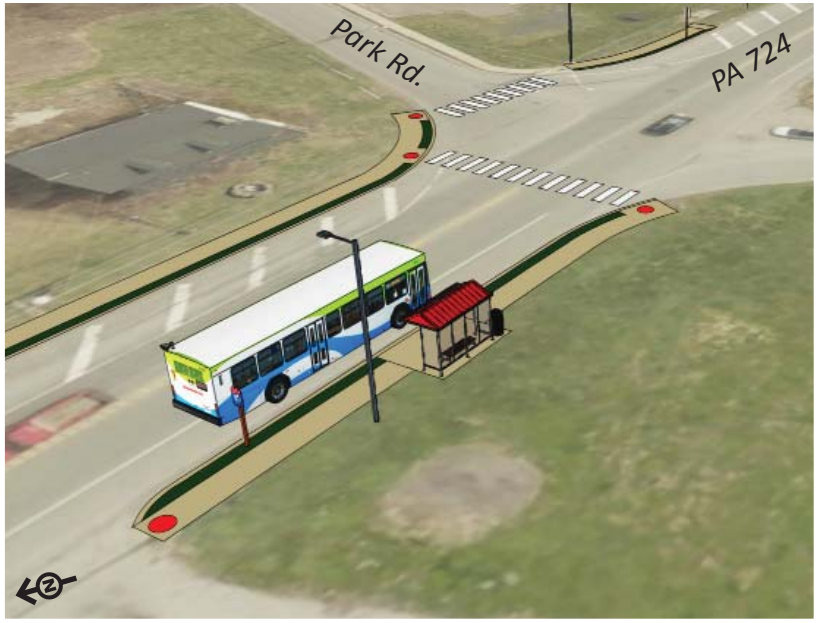
Currently, both the northbound and southbound stops consist of a SEPTA bus stop sign attached to a utility pole in the stop area. The utility poles are situated in patches of grass and therefore the stops lack any clearly designated loading area. While there is a pedestrian walkway connection along Park Road, walkways are completely lacking along the main arterial, PA 724. While there are relatively wide shoulders, traffic travels at high speeds and there are large driveway entrances to the mobile home community and auto-related uses that pose challenges for pedestrians. There is no safe crossing of PA 724 in the stop area.

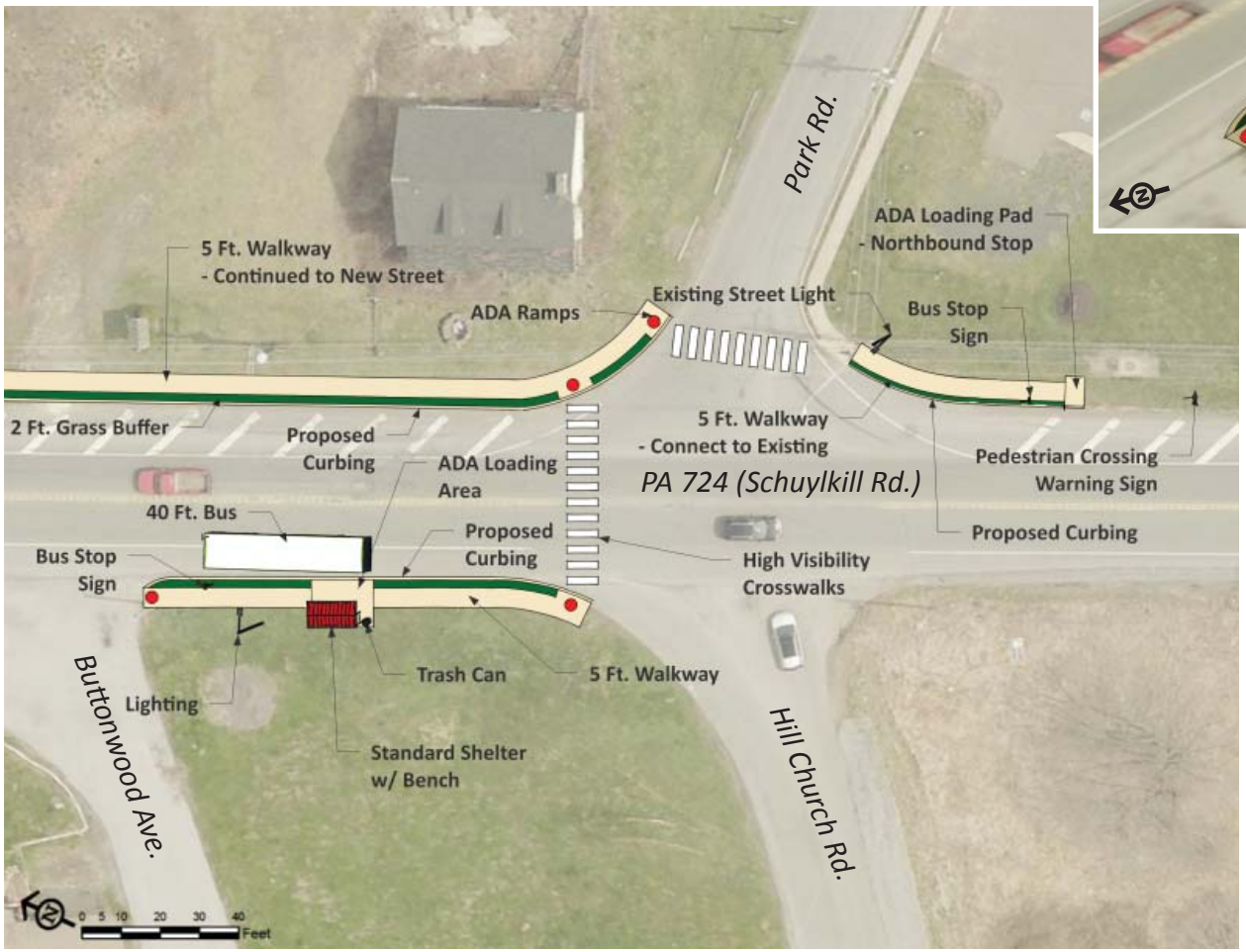
Current bus stop looking north.

Looking east toward Park Road.

Recommended Improvements

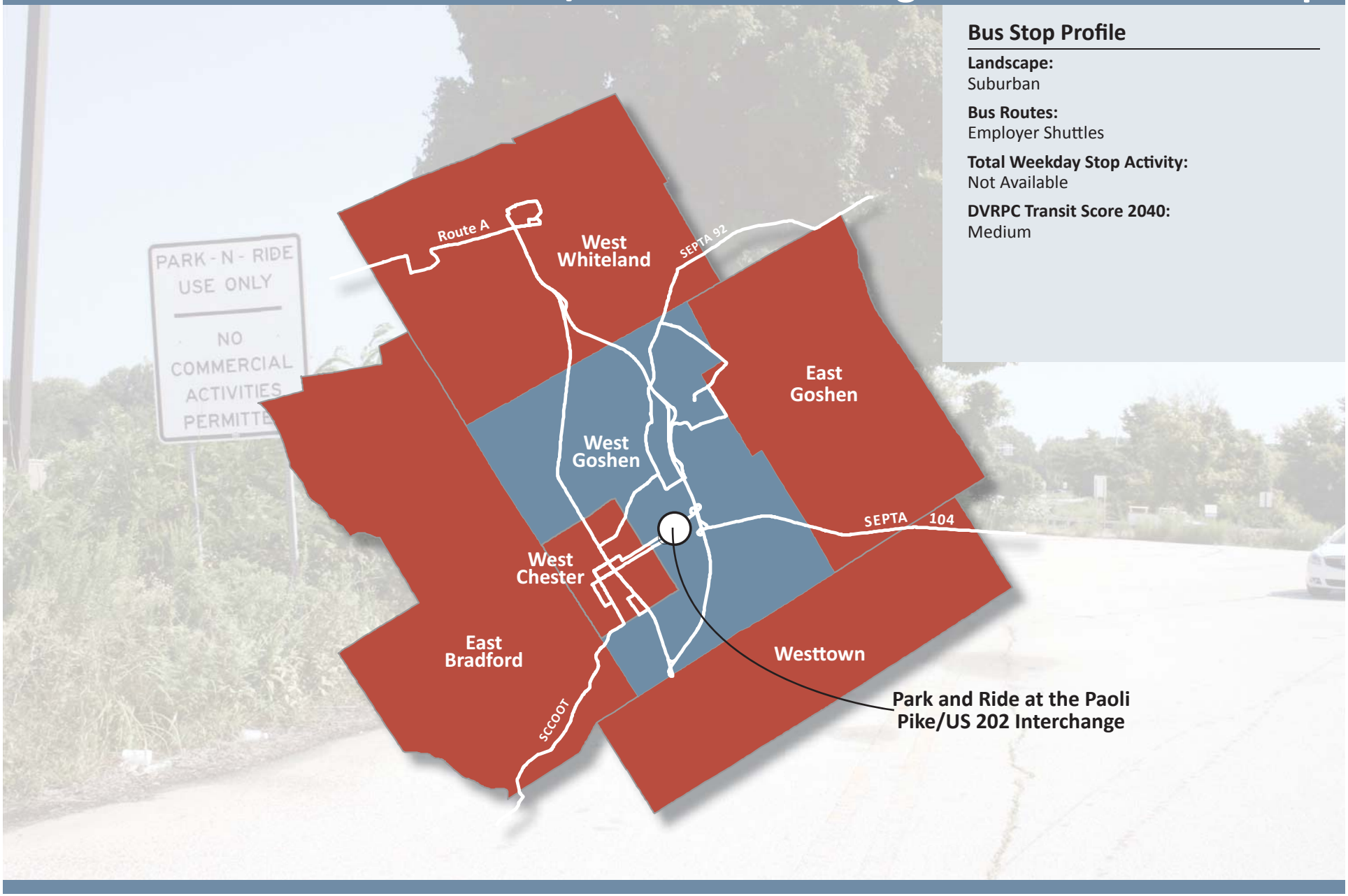
Curbed five foot walkways are recommended on both the east and west side of PA 724 in the stop area. On the east side, it is recommended that the walkway continue from Park Road to New Street. Sidewalks already exist on New Street that connect into Spring City Borough. High visibility crosswalks over Park Road and PA 724 as well as curb cuts and ADA ramps are also recommended in the stop area to allow for safer pedestrian crossings and ADA accessibility.





The most significant improvements are recommended at the southbound stop where the majority of boardings occur. The southbound stop could be enhanced with a concrete ADA accessible loading area, a standard shelter with bench seating, a trash can and improved lighting. These types of improvements

Park and Ride at the Paoli Pike/US 202 Interchange — West Goshen Twp.



Bus Stop Profile

Landscape:
Suburban

Bus Routes:
Employer Shuttles

Total Weekday Stop Activity:
Not Available

DVRPC Transit Score 2040:
Medium

Existing Conditions

The Park and Ride lot is located at the interchange of Paoli Pike and U.S. 202 just outside West Chester Borough in West Goshen Township. It is adjacent to the West Goshen Shopping Center, a regionally significant shopping destination anchored by an Acme, Kmart and Staples. The entrance to the Park and Ride is off of Paoli Pike, a heavily traveled arterial roadway that connects West Chester to Malvern and Paoli.

While the SEPTA route 104 bus does go by the Park and Ride to service the West Goshen Shopping Center, the bus does not actually circulate within the Park and Ride lot. Currently, only large employers such as AstraZeneca offer shuttle bus service from the Park and Ride lot to their offices. However, a recent DVRPC study, Enhanced Bus Service on West Chester Pike, did identify this Park and Ride lot as a potential station location for future enhanced or rapid bus service on SEPTA route 104.

There is no formal bus stop infrastructure present at the Park and Ride lot. The lot is simply a paved parking surface accessible only by car. There is currently no connection (for pedestrians or vehicles) between the Park and Ride and the West Goshen Shopping Center, even though they are located right next to each other. The lot sits at a slightly higher elevation than the shopping center, and it appears that stormwater runoff collects at the base of the hill between the Park and Ride and the parking lot for the shopping center. Currently, this area between the parking lots is very confusing and consists of an unnecessary accessory driveway and some landscaped islands.

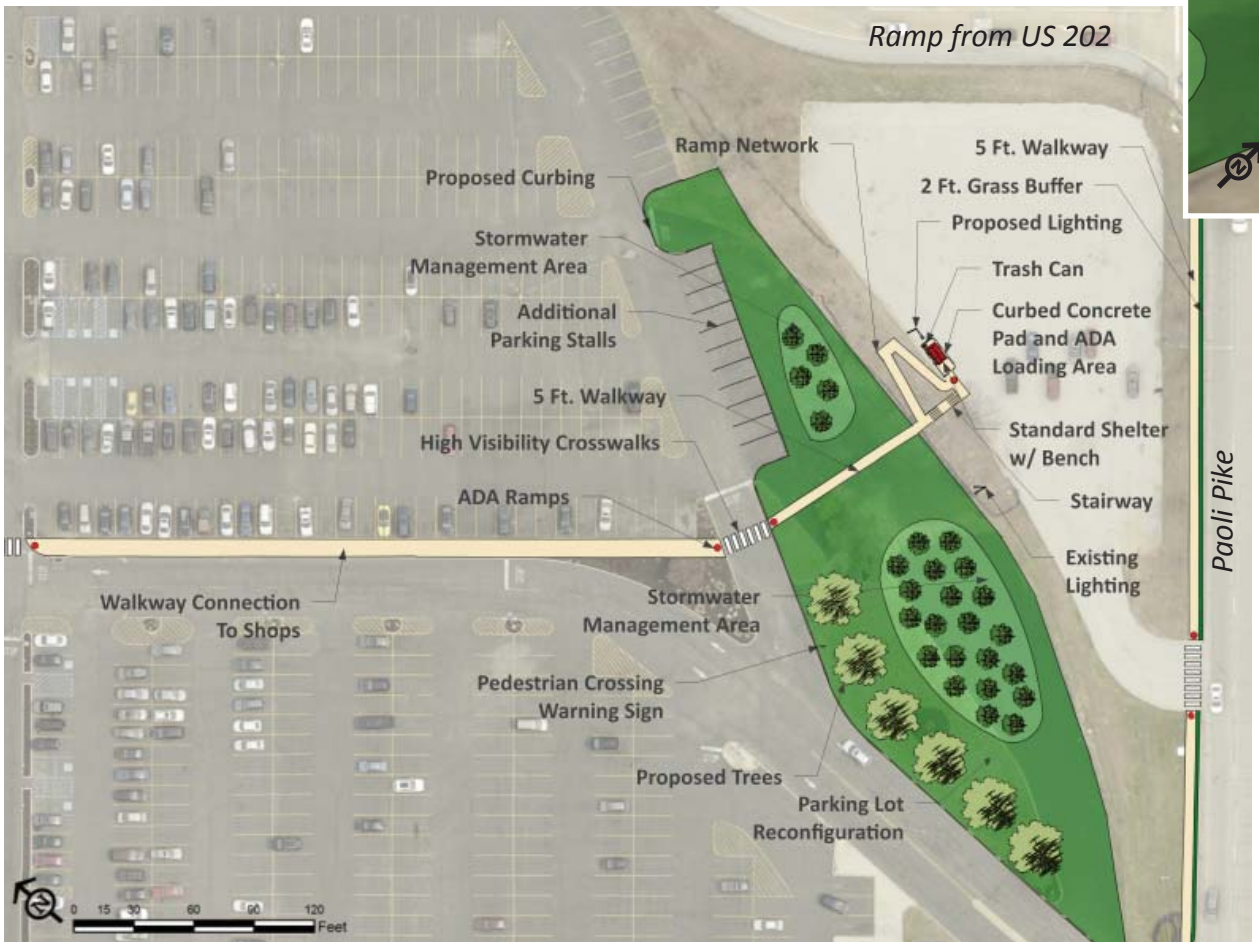
Paoli Pike looking west.

Existing conditions at Park and Ride lot.

Recommended Improvements

If the Park and Ride lot is eventually to serve as a transit station, it is recommended that investment be made into upgrading the facilities and creating a connection to the shops in the West Goshen Shopping Center. The conceptual site plan that follows offers a potential vision for how this area could be reconfigured to better accommodate transit users.

One of the key overall recommendations is improving the pedestrian walkway connections in the area including a walkway connection from the Park and Ride lot down the hill and through the shopping center parking lots within an existing landscaped median. Additional pedestrian infrastructure is recommended on the frontage along Paoli Pike to connect to other destinations further south. High visibility crosswalks and ADA ramps are incorporated throughout the pedestrian network.



Within the Park and Ride lot, a curbed concrete pad bus stop area is recommended. The bus stop should incorporate additional lighting, a shelter with seating, trash receptacle and signage. It would also be beneficial to restripe the Park and Ride lot and clearly designate the bus stop loading area.

A landscaped green stormwater management area is recommended at the base of the hill to address stormwater ponding and wasted space between the West Goshen Shopping Center and Park and Ride. This would address both the runoff issues and enhance the aesthetis of the gateway entrance to the shopping center. This configuration also offers the opportunity for additional parking stalls.

University Drive and Cope Hall at Cheyney University — Thornbury Twp.

Bus Stop Profile

Landscape:
Suburban

Bus Routes:
SEPTA 119 & 120

Total Weekday Stop Activity (2014):
37

Northbound:
N/A

Southbound:
37 ons, 0 offs

DVRPC Transit Score 2040:
Low

Existing Conditions

The stop is located in Thornbury Township, Chester County close to the boarder with Delaware County on the campus of Cheyney University along University Circle and outside of Cope Hall. Two SEPTA bus routes service the stop – SEPTA Route 119 which connects Cheyney University to Chester City and SEPTA Route 120 which connects the university to 69th Street Terminal in Upper Darby. The SEPTA routes loop around Cheyney's campus in a clockwise fashion; therefore, there is only a southbound stop outside of Cope Hall.

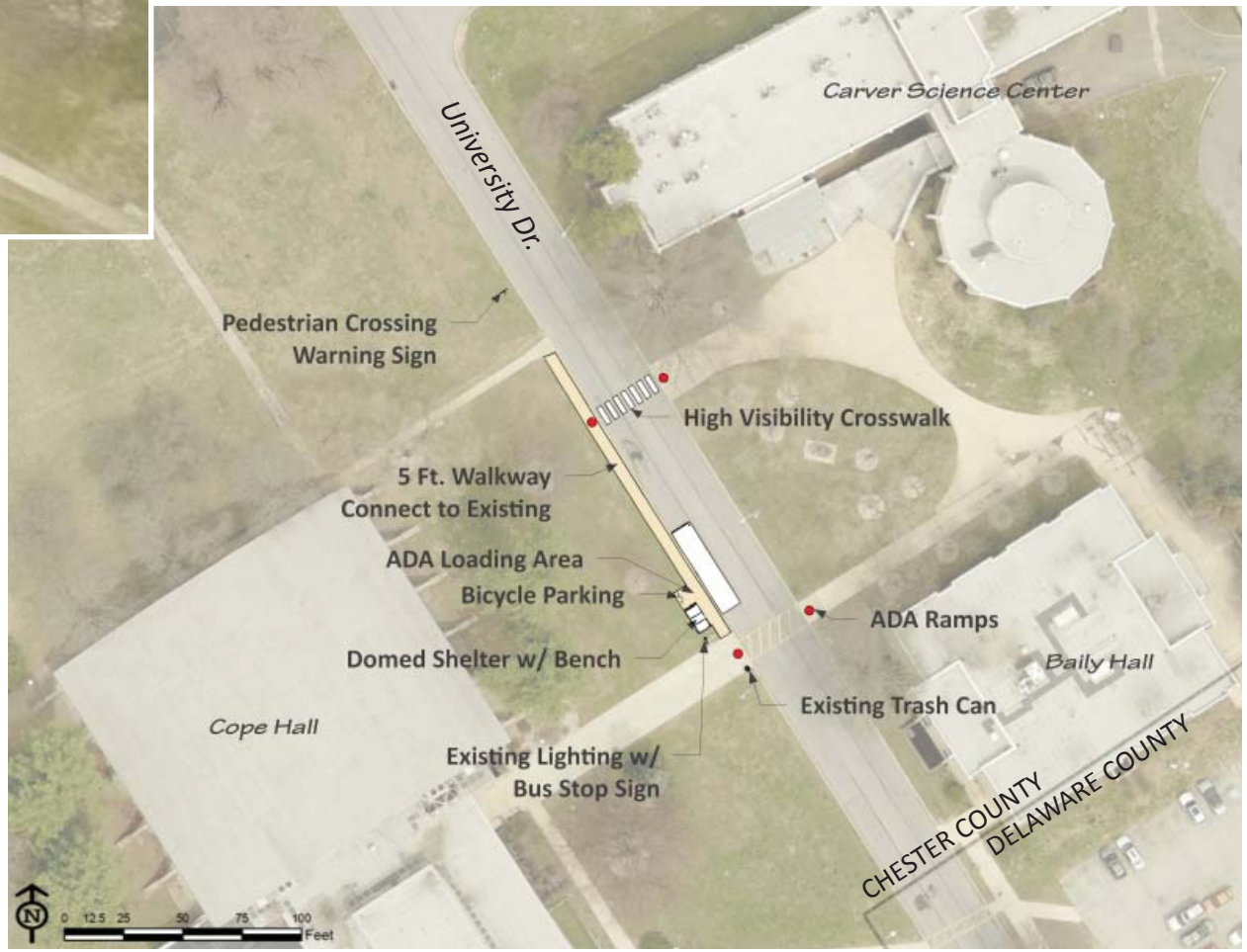
While other stop locations on Cheyney's campus have a higher level of amenities (shelter, lighting, etc.), this particular stop location maintains a strong number of daily boardings. The stop currently consists of a bus stop sign affixed to a lamp post and a trash receptacle. There is a walkway connection to Cope Hall and a crosswalk to make the connection over University Circle to the campus walkway network by Baily Hall. However, the stop area could be better integrated into the university's existing walkways.

Cope Road looking north.

Existing conditions at bus stop.

Recommended Improvements

With this stop handling a substantial number of daily boardings, recommended improvements consist of a domed shelter and ADA loading area along with bicycle parking and an expanded walkway connection. The domed shelter design is consistent with other shelters located on Cheyney's campus. The expanded walkway network consists of a five foot walkway along the west side of University Circle and a high visibility crosswalk that connects Cope Hall to the Carver Science Center.



The Shoppes at Jenners Village — Penn Twp.

Bus Stop Profile

Landscape:
Suburban Center

Bus Routes:
TMACC SCCOOT

Total Weekday Stop Activity (2014):
19

Northbound:
6 ons, 4 offs

Southbound:
4 ons, 5 offs

DVRPC Transit Score 2040:
Low

Existing Conditions

The Shoppes at Jenners Village bus stop is located in a commercial shopping center off of Baltimore Pike in the Jennersville area of Penn Township in southern Chester County. The shopping center is anchored by a Giant supermarket and also houses a CVS Pharmacy, Starbucks and several local eateries. It serves as the primary shopping destination in the township. Baltimore Pike is a major arterial roadway in southern Chester County paralleling the route of the US1 Expressway. It also serves as the primary commercial corridor connecting several urban and rural centers such as Kennett Square, Avondale Borough and Oxford Borough.

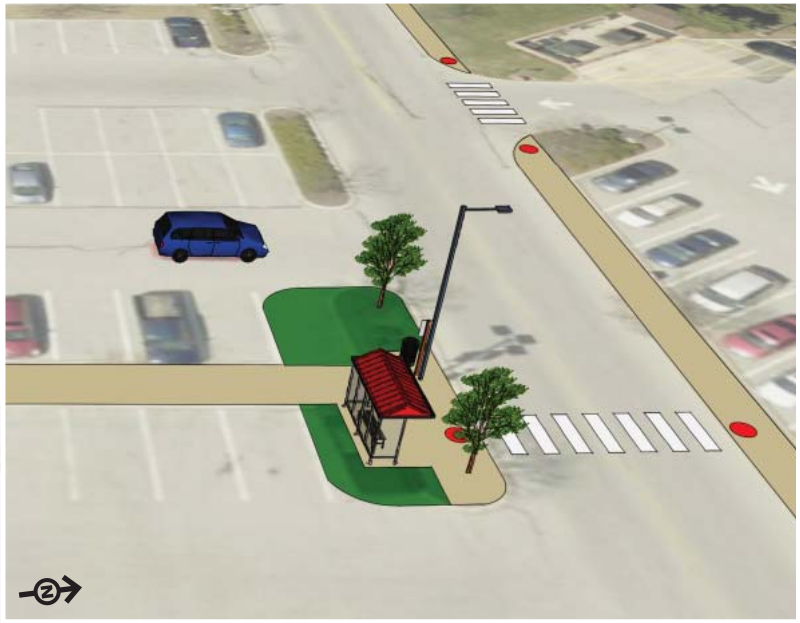
The Shoppes at Jenners Village is serviced by the SCCOOT bus route, which is operated by TMACC. The SCCOOT bus is the only public transit route providing service to southern Chester County. It connects West Chester to Oxford Borough largely utilizing US 1 and Baltimore Pike with stops in the other urban and rural centers along the route.

Currently, the northbound stop area consists of a small concrete loading pad on a raised curb island located in the middle of the shopping center. There is a CHESCOBUS bus stop sign and trash can at the stop and overhead lighting is provided by the shopping center parking lot. The stop lacks any pedestrian connectivity to the stores in the shopping center. After departing the bus, transit users must navigate the auto-centric parking lot to reach the destinations. The southbound stop area is not clearly distinguished in any way. Therefore, it is likely that riders utilize the northbound stop waiting area for travel in both directions.

Existing conditions at the Shoppes at Jenners Village bus stop.

Recommended Improvements

This stop could be greatly improved by providing walkway connections between the stop area and the surrounding retail uses. A walkway connection is recommended from the northbound raised island stop area to the grocery store within the existing grass parking median. Other pedestrian improvements consist of high visibility crosswalks, ADA ramps and five foot walkways that provide connections to the fast food establishment and the neighboring bank property. These types of pedestrian improvements will likely help to boost bus ridership to these retail destinations particularly for senior citizens living in some of the nearby age-restricted communities.



It is recommended that the raised curb island be expanded to accommodate an improved northbound stop. This would eliminate two parking spaces in the shopping center parking lot. The expanded northbound stop area could incorporate a shelter with bench seating and an enlarged ADA accessible loading pad. The existing lighting and trees would remain.

Another recommended improvement is the addition of a clear southbound stop area consisting of a small ADA loading pad and a bus stop sign.

Business 30 (Lancaster Ave) and Green Street — Downingtown

Bus Stop Profile

Landscape:
Urban

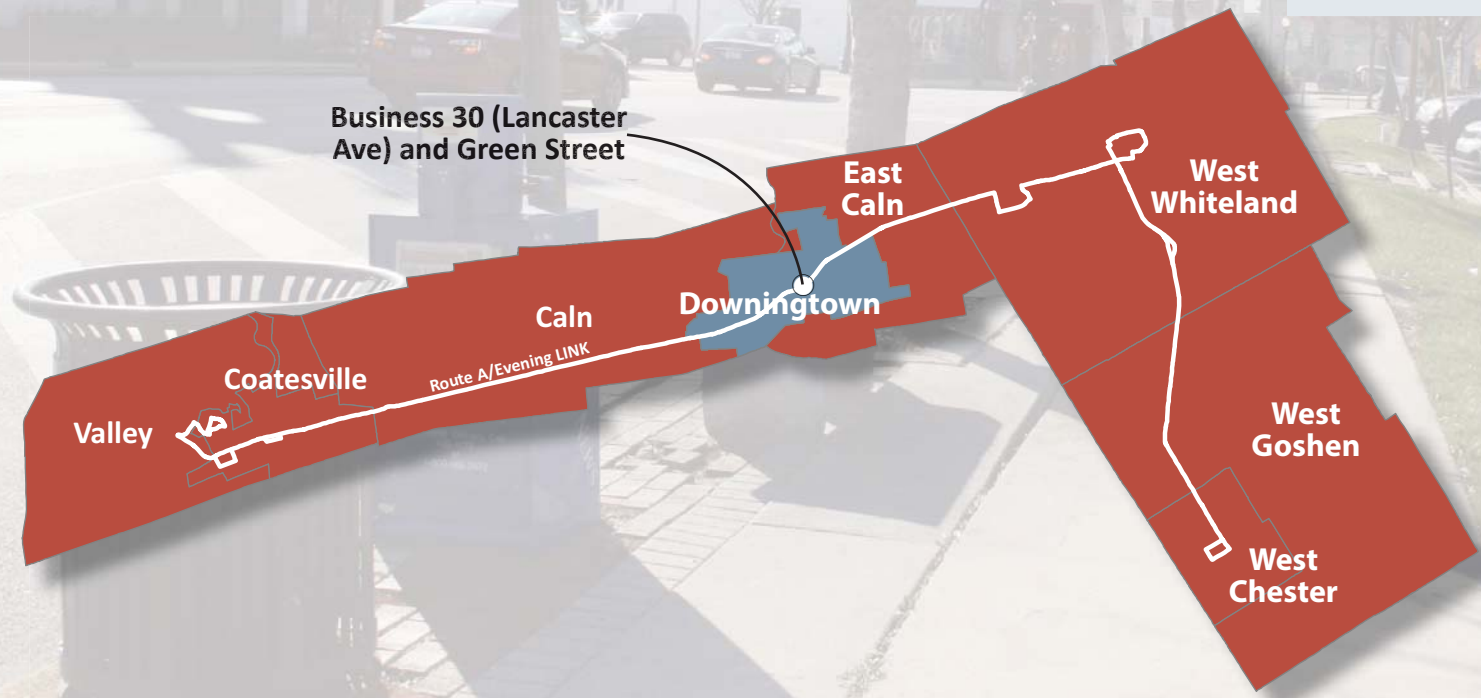
Bus Routes:
Krapf's Rt. A, TMACC Coatesville Evening LINK

Total Weekday Stop Activity (2014):
22

Eastbound:
0 ons, 0 offs

Westbound:
22 ons, 0 offs

DVRPC Transit Score 2040:
Medium – High



Existing Conditions

This Downingtown bus stop is located at the intersection of Lancaster Avenue and Green Street in the center of the borough business district. The westbound stop is located in front of a fast food establishment and the eastbound stop is across the street in front of a retail store. Lancaster Avenue runs east-west throughout the county and serves as the primary commercial corridor connecting several boroughs and the City of Coatesville. In this particular location, there is currently no on-street parking on either Lancaster Avenue or Green Street.

The stop is serviced by the Krapf's Route A bus route and the Coatesville Evening LINK. The Route A bus connects Downingtown to Coatesville as well as Exton and West Chester. The Coatesville Evening LINK services the same route as Route A between Coatesville and Exton on weekdays after 6:30PM.

Being in an urban center, the bus stop area possesses a strong pedestrian network of wide sidewalks and high quality crosswalks over both Lancaster Avenue and Green Street. There is also abundant street lighting and street trees. Both the eastbound and westbound stop areas consist of a CHESCO-BUS sign, a bench and a trash can. The westbound stop accounts for a relatively high number of daily boardings and is fronted by a portion of roadway that is striped out and that eventually turns into a right turn only lane into the fast food chain's parking lot.

Lancaster Avenue looking west.

Existing stop on south side of Lancaster Avenue.

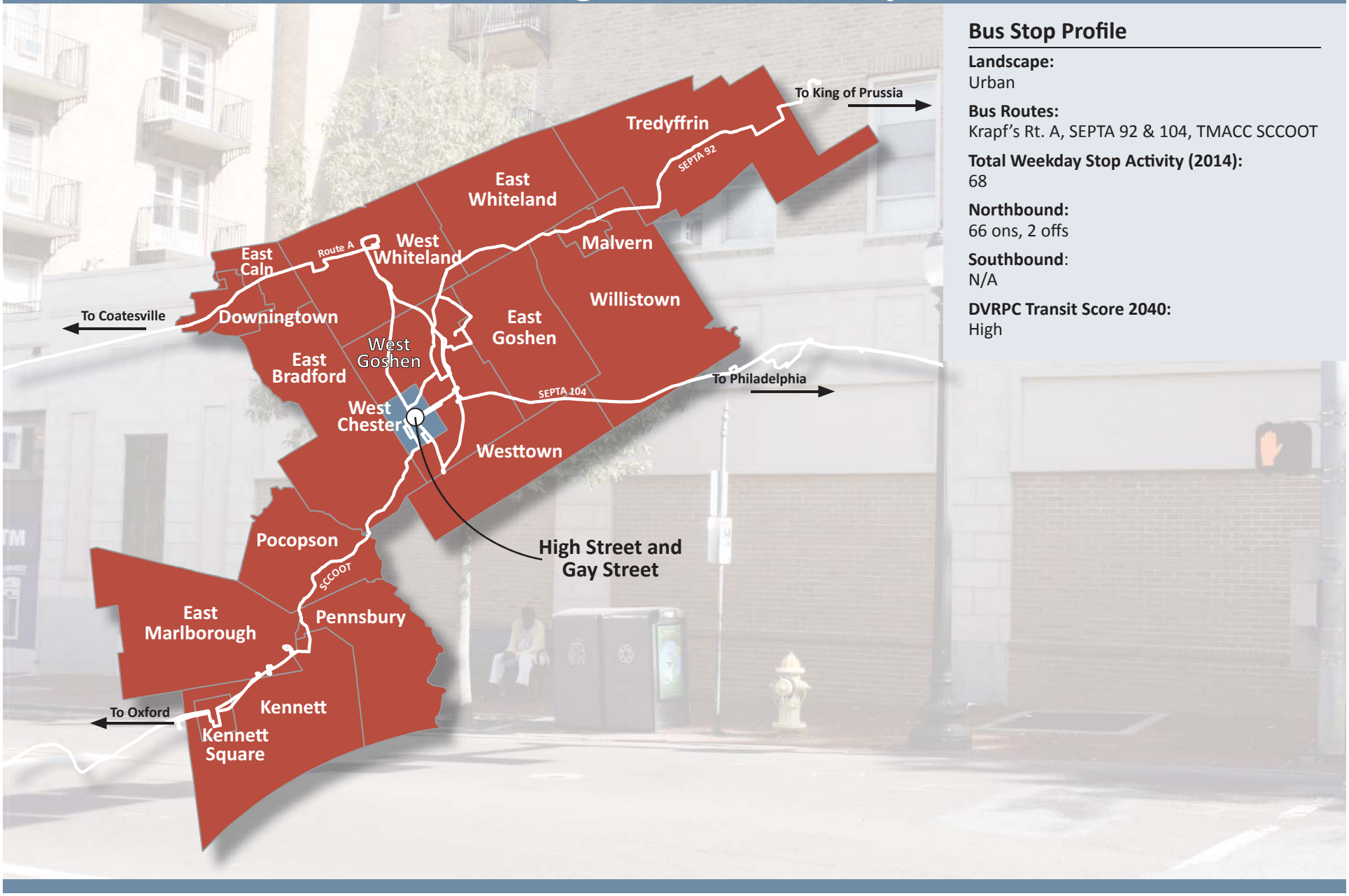
Recommended Improvements

The striped out area of roadway presents an opportunity to develop a curb extension and an enhanced westbound stop area. The additional space provided by the curb extension will allow for the installment of a standard shelter with bench seating, bicycle parking facilities and an expanded ADA accessible loading area. Additionally, planting beds can be added to the curb extension to enhance the streetscape appearance. The curb extension also shortens the distance that pedestrians must walk to cross over Lancaster Avenue, making for a friendlier pedestrian environment. The existing street trees and street lighting will be maintained as is, and the curb extension will also incorporate space for the existing trash can, bus stop sign and newspaper dispenser.

The curb extension pictured on the conceptual site plan on the following page is wide enough to accommodate the shelter and planting beds, but still allows enough room for a single lane of traffic to continue to flow westward even when the bus is stopped for loading and unloading. This will prevent traffic from queuing into the Lancaster Avenue and Green Street intersection while the bus is stopped.

No specific improvements are recommended for the eastbound bus stop as the current stop amenities seem to be adequate for the relatively low ridership.

High Street and Gay Street — West Chester



Bus Stop Profile

Landscape:
Urban

Bus Routes:
Krapf's Rt. A, SEPTA 92 & 104, TMACC SCCOOT

Total Weekday Stop Activity (2014):
68

Northbound:
66 ons, 2 offs

Southbound:
N/A

DVRPC Transit Score 2040:
High

Existing Conditions

This stop is located at the intersection of High Street and Gay Street in the center of West Chester Borough. It is right outside the Greentree Apartment Building which has a pharmacy on the ground floor. Within a one-block radius are a number of restaurants, shops, offices and apartments.

In addition to being a center of activity, the stop is serviced by four different transit routes making it possible to reach most places in the county from this spot as well as several regional destinations including Center City Philadelphia and King of Prussia. As a result, the stop maintains a high level of ridership. One of the bus routes serving this stop is the SEPTA 104 bus which connects West Chester to the 69th Street Transportation Center in Upper Darby. This line accommodates approximately 3,400 passengers every weekday making it the fourth busiest suburban bus route in the region. This is a key stop for the Krapf's Route A bus because it is the last stop in the Borough of West Chester before heading north to connect with Exton.

With its location in the center of the borough, this stop benefits from an extensive pedestrian network with safe street crossings and street lighting. There is only a single bus stop in this area located on the eastern side of High Street outside of the pharmacy. The stop consists of two benches setback from the street, a bus stop sign, trash receptacle and a street tree and street light.

Existing views.

Rendered improvements.

Recommended Improvements

While this stop does possess several amenities, the primary recommendation is the addition of a shelter that can protect riders from the elements. The relatively high ridership and specifically boardings at this stop does warrant investments to improve the transit user experience. The sidewalk on the east side of High Street is fairly wide at approximately 11 feet. It may be difficult to fit a standard shelter while maintaining a clear zone from the curb and sufficient room behind the shelter for pedestrians. Therefore, a narrow shelter model that still maintains some seating may be a better option.

Another recommended improvement is the installation of bicycle parking. Again, with limited space on the pedestrian pathway, a more compact design will be appropriate to satisfy this recommendation.

Lincoln Highway and Sixth Avenue — Coatesville

Bus Stop Profile

Landscape:
Urban

Bus Routes:
Krapf's Route A, TMACC, Coatesville LINK

Total Weekday Stop Activity (2014):
80

Eastbound:
59 ons, 5 offs

Westbound:
7 ons, 9 offs

DVRPC Transit Score 2040:
High

Existing Conditions

This bus stop is located at the intersection of Lincoln Highway and Sixth Avenue in the center of Coatesville City. Lincoln Highway is the main arterial roadway that runs east-west through the center of Coatesville, and it also serves as the main commercial corridor. Lincoln Highway carries a single lane of traffic in each direction and has dedicated bicycle lanes and on-street parking through most of Coatesville.

Given its location in an urban center, this bus stop has some of the typical urban streetscape amenities and infrastructure that support transit use. There is a robust sidewalk network in the bus stop area with overhead street lighting and occasional trash receptacles.

Currently, the eastbound stop is located on the southeast corner of the intersection. A “CHESCOBUS Route” sign is affixed to the utility pole and there is a trash receptacle located in the vicinity of the bus stop. There is no clear loading area within the spatially constrained location and the stop lacks any kind of seating or shelter.

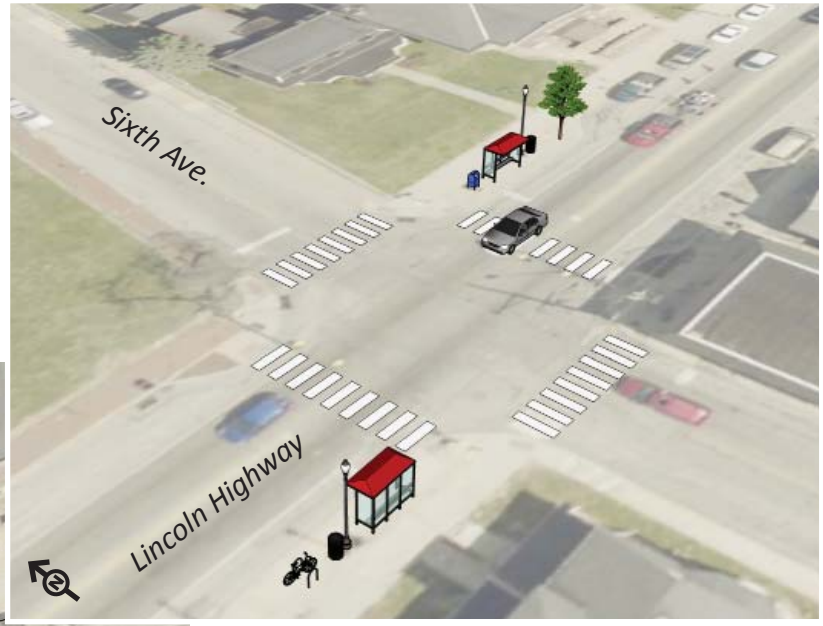
The westbound stop is located on an existing curb extension on the north-east corner of the Lincoln Highway and Sixth Avenue intersection. The stop has a clear loading area, bus stop signage, lighting and a trash receptacle, however, it lacks any seating, shelter or shading.

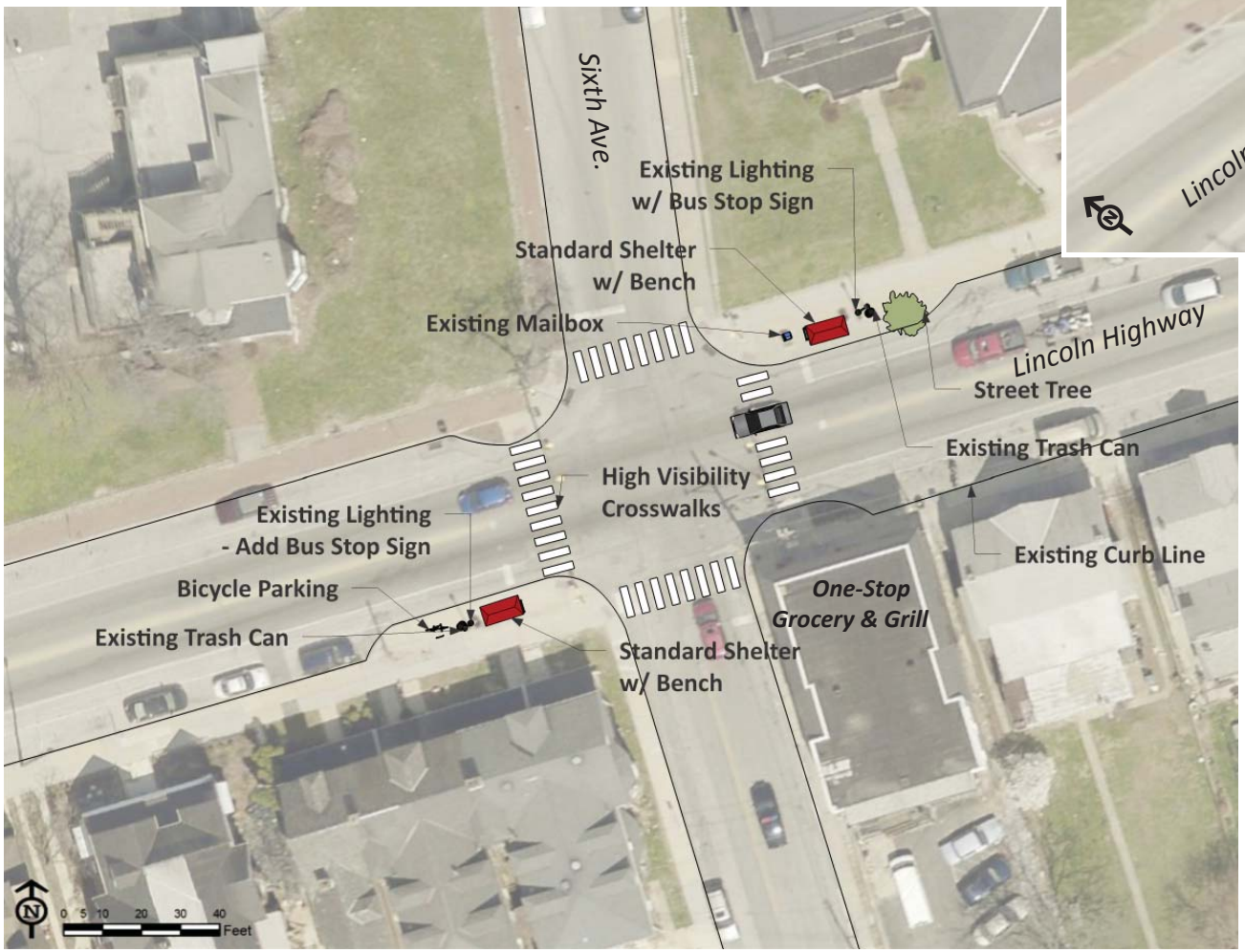
Existing stop on south side of Lincoln Highway.

Lincoln Highway looking east.

Recommended Improvements

The eastbound bus stop would operate more effectively as a near-side stop on the south-western corner of the Lincoln Highway and Sixth Avenue intersection. This relocated stop location offers more space on an existing curb extension that can accommodate additional amenities. There is currently a street light and trash receptacle located in the curb extension area. Additional amenities recommended for the eastbound stop include a standard shelter with seating and bicycle parking for bus riders that may be utilizing the bicycle lanes along Lincoln Highway.





The westbound stop area could be enhanced with the addition of a standard shelter with seating on the curb extension. A street tree could be added to provide shading and to enhance the appearance of the streetscape.

The walkway network in the stop area could be improved with the addition of high visibility crosswalks on all four sides of the intersection. The crosswalks on Lincoln Highway were recently updated with the restriping of the roadway, but the crosswalks on Sixth Avenue still need to be addressed.

Chapter 3

Moving Forward

Implementation

The bus stops detailed in this document are meant to serve as case studies for how key transit locations throughout the county can be improved to better meet the needs of public transportation users. Recommended improvements largely consisted of local area improvements such as addressing gaps in the pedestrian network to increase accessibility to transit as well as enhancements to the actual transit stop facilities such as shelters, seating and signage. The recommendations offered in these case studies can and should be applied to other bus stop locations in the county that fit into a similar context.

Implementing improvements to bus stops can be challenging in the Southeastern Pennsylvania region. Currently, transit agencies and providers are not responsible for the design or maintenance of the stops. Therefore, in order to provide high-quality facilities, it often requires partnerships between municipalities, property owners, transit agencies and Transportation Management Associations (TMAs).

The Multi-Modal Circulation Handbook for Chester County details a number of resources and tools that can be used to implement multi-modal transportation improvements. The primary tools outlined in the handbook include implementation through the local land development approval process and targeted capital improvement projects where land development is currently not imminent. Funding for transit shelters and other amenities may also be accomplished through creative partnerships.

Land Development Approval Process

The Multi-Modal Handbook recommends that municipalities consider including requirements for bus stops and associated pedestrian infrastructure in zoning and/or subdivision and land development ordinances. The handbook offers a series of guidelines for establishing an ordinance requiring bus stops with shelters. Some of the key points include:

- Bus stops with shelters should be required along existing public transportation routes or key transportation corridors that have the potential for public transit service based on the density or intensity of proposed residential, institutional, commercial, or industrial uses. For example, a bus stop with shelter should be required where the gross leasable area for commercial, industrial, or institutional uses is fifty-thousand (50,000) square feet or more or where there is a residential development greater than one hundred (100) dwellings units. The municipality can adjust the "thresholds" to meet their community objectives or the intent of the associated zoning district.
- Bus stops with or without shelters should be adequately lighted to provide safety and visibility for users. The source of light shall be shielded from all abutting properties and from traffic along any adjacent roadway.
- Sidewalks and internal walkways should be provided to connect bus stops shelters to adjacent uses that generate significant pedestrian traffic.
- Bus stops with shelters and their related facilities and amenities should be designed in accordance with the design standards of the SEPTA Bus Stop Design Guidelines as produced by the Delaware Valley Regional Planning Commission (DVRPC). Where there are site-specific issues that are not explicitly covered by the SEPTA Bus Stop Design Guidelines, it is particularly important that they be vetted by the operating agency. This includes situations where a design exception or mitigation of conditions is required. In the case of SEPTA, both Service Planning and Transportation (operations) should be consulted to insure that there are no unintended operational issues that are generated by the bus stop design .
- The municipality shall have the final determination as to the location of bus stops with shelters. Area and bulk regulations of the associated zoning district shall not apply to the placement of bus stops with shelters.
- Bus shelters shall be placed on a concrete slab which should be constructed in accordance with municipal ordinances.
- Bus shelters should not exceed five (5) feet in width and ten (10) in length and shall be constructed of an aluminum frame with a minimum of two (2) sides enclosed with lexan, acrylic, Plexiglas, or safety glass and a roof. A bench should be provided in the shelter with a center divider/arm rest and a trash receptacle in a style approved by the municipality.
- Bus stops with shelters should be well-marked/identified with a double-sided sign, preferably on its own pole in accordance with current SEPTA sign standards.
- Bus stops with shelters should be maintained in a clean and neat condition and in good working order and repair and shall be inspected and cleaned at least once every seven (7) days.

The Multi-Modal Handbook also provides a bus stop classification typology (Basic Stop, Collector

Stop, Hub Stop) that details what amenities are appropriate for a bus stop location based on actual or projected ridership. This typology could also be incorporated into municipal ordinances for bus stops that are built as part of new developments or major redevelopment projects.

These types of multimodal improvements can be made more attractive in local ordinances through the use of incentive or performance zoning. These innovative zoning mechanisms grant density bonuses to developers if they agree to provide transit or pedestrian amenities; or if they show that a project reduces traffic volumes through pedestrian circulation or public transit facilities.

Grant Programs

Due to limited funding and the competitiveness of most grant funding programs eligible for transit stop improvements, it is critical that capital improvements are targeted towards those stops where development/redevelopment is unlikely and those stops that pose the greatest need. In addition to a municipality's own capital improvement program, there are several potential funding sources that may be appropriate for the types of improvements recommended in the bus stop case studies. These funding sources are discussed in more detail below. For a full list of funding programs for local planning and development projects, visit DVRPC's *Municipal Resource Guide* online database www.dvrpc.org/asp/MCDResource.

Transportation Alternatives Program (TAP)

This federal program funds infrastructure projects built for pedestrians, cyclists and other non-motorized users of the transportation system. Eligible projects include sidewalks and walkways, trail facilities, improvements to address ADA accessibility and pedestrian and cycling connections to public transit. The TAP program funds 100% of construction costs. This competitive funding program is offered annually.

More information: http://www.dvrpc.org/tap/

Pennsylvania Multimodal Transportation Fund (MTF)

Two separate state-funded transportation improvement grant programs are offered in Pennsylvania – one administered by PennDOT and the other by the Department of Community and Economic Development (DCED). Both programs fund projects that coordinate local land use with transportation assets to enhance existing communities and promote economic development. Eligible projects include bus stop improvements, sidewalk and pedestrian safety enhancements and projects related to transit-oriented development (TOD). These programs require a local match equal to 30% of the total project cost. Both programs are made available annually.

More information:

- PennDOT Program http://www.penndot.gov/ProjectAndPrograms/MultimodalProgram/Pages/default.aspx#.VusXYNIrKJA
- DCED Program http://www.newpa.com/programs/multimodal-transportation-fund/

Automated Red Light Enforcement Grant Program (ARLE)

Automated Red Light Enforcement (ARLE) funds are generated from automated red light enforcement cameras, primarily in the City of Philadelphia. By state law, 50% of the program's revenues are dedicated towards a grant program (open to all municipalities in Pennsylvania) for low-cost projects that improve the safety and mobility of the transportation network. Eligible projects include traffic signal improvements, roadway and intersection improvements and pedestrian safety improvements. No local matching funds are required for participation. The funding is available annually and the application period is typically June 1st through June 30th.

More information: http://www.dot.state.pa.us/Portal%20Information/Traffic%20Signal%20Portal/FUND.html

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

This federal program funds transportation projects that will reduce traffic congestion and improve air quality in order to better meet the federal health ambient air quality standards. Eligible projects include bicycle and pedestrian projects, transit improvement programs, traffic flow improvements, and transportation demand management. The program is open to public sponsors as well as public-private partnerships with a public agency sponsor. This competitive funding is available every 2-3 years through the Delaware Valley Regional Planning Commission.

More information: http://www.dvrpc.org/CMAQ/

Private Partnerships

Transit Shelters

Many of the existing bus shelters and associated amenities in Chester County and neighboring counties have been provided and maintained through agreements with advertising firms such as Clear Channel. While these types of agreements have yielded a number of bus shelters, there are some caveats to pursuing shelters via this route. Advertising firms are primarily interested in visibility of the shelter (and advertising space) to auto drivers. The most desirable shelter locations for an advertising firm may not align with the actual bus stop locations that need these types of amenities the most. Additionally, the advertising firms have indicated some hesitation with expanding their footprint deeper into Chester County.

In a recent report titled Enhanced Bus Service on West Chester Pike, DVRPC detailed an alternative partnership model that led to the successful provision of a bus shelter and other stop improvements in Marple Township. Marple Township partnered with the Broomall Chapter of Rotary International to install a shelter at a key stop along West Chester Pike. The Broomall Chapter donated the shelter and paid all costs associated with installing it. The township owns, maintains, and insures the shelter. The shelter includes a bench and a small Rotary logo. Similar partnerships are worth exploring in Chester County with civic minded organizations like local Rotary chapters as well as universities and other anchor institutions.

Maintenance

One of the most significant barriers to the delivery of bus stop improvements is the reluctance of various agencies to assume the responsibility for maintaining and insuring the shelters and associated amenities. This is why creative partnerships are necessary to provide high quality transit facilities in the region.

The Multi-Modal Handbook recommends that in the case of future development projects, language should be added to local ordinances that, in effect, makes maintenance of transit facilities an obligation of the land developer/property owner. In order to address the wider need of high quality transit stops throughout the county, particularly in locations where development/redevelopment is not imminent, it will be necessary for regional transportation partners to develop at least one maintenance agreement model that can be endorsed by all parties.

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Funding for the development of this document provided by:

Delaware Valley Regional Planning Commission